Project Manager's Handbook

OPR - XPP

Preface

This Project Manager's Handbook is designed as a training aid for new employees and a reference document for the more experienced project manager[1]. It is meant to supplement and not supersede PL and higher HQ regulations. Many of the topics/issues addressed in this handbook can be time sensitive due the nature of the ever changing acquisition process.

The handbook is divided into six major parts:

Part 1. Fundamentals
Part 2. Project Management
Part 3. Financial Management
Part 4. Procurement Planning and Contract Management
Part 5. Laboratory Support Services
Part 6. Technology Transfer

Each Part is subdivided into various chapters. Each chapter begins with a Points of Contact list with phone numbers. Questions may be addressed to these offices regarding specific individuals who handle the area in question.

Each chapter is designed to assist you as you perform the functions and prepare documentation associated with the laboratory project management process. **It is not all inclusive.**

There is a Subject Index provided in Appendix C to aid in finding information about a specific topic.

The long term goal is to make this handbook available to all lab personnel via some form of electronic media and accessible through the PL management information system. This will enable more timely updates to the data and maintain the level of accuracy for which we know Project Managers are searching.

The near term goal is to maintain the Handbook as a single integrated reference document for PL project management activities. We request your views and suggestions for changes, additions, or any actions which would improve the usefulness of the Handbook. Please forward your comments to:

PL/XPPJ
3550 Aberdeen Avenue SE
Kirtland AFB, NM 87117-5776

or FAX: DSN 246-9666
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Colonel, USAF
Commander

[1] For brevity, the term "project manager" is used for "project," "program," or "work-unit manager," as well as for other variants.

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Introduction to Phillips Lab

I. POINTS OF CONTACT

Kirtland AFB:

PL History Office, PL/HO
(505) 846-4320; DSN 246-4320

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

II. PL MISSION

Phillips Laboratory leads, develops, focuses and transitions military space and missile technology, with corporate responsibility for directed energy and geophysics technologies extending beyond their space applications.

III. PL HISTORY

The origins of Phillips Laboratory can be traced to four diversified scientific organizations that emerged in the years following World War II. Cambridge Research Laboratories (which became the Geophysics Lab), the Rocket Propulsion Laboratory (renamed the Astronautics Lab), the Air Force Weapons Laboratory, and the Air Force Space Technology Center were the building blocks that laid the foundation of an important and enduring part of the Air Force's research and development structure. In a move for increased efficiency and economy the Air Force Space Technology Center and its three laboratories (Geophysics, Astronautics, and Weapons) merged to form Phillips Laboratory (PL) on 13 December 1990.

Each PL predecessor laboratory had performed a wide variety of military research and technology programs, and many of them related to space. When the U.S. Army Air Forces first acquired Cambridge Field Station in Cambridge, Massachusetts, (and several other buildings at what was then Lawrence G. Hanscom Field) in 1946, the awesome potential of nuclear fission had already burned an indelible mark onto the pages of world history. In 1949, the Cambridge Field Station was renamed the Air Force Cambridge Research Laboratories, and in 1976 was redesignated the Air Force Geophysics Laboratory. Geophysics sought to understand the interaction of Air Force systems with the space environment and how to mitigate that environment's detrimental effects on those systems. Exploiting the space environment for defense of the U.S. was the underlying mission of Geophysics. In its quest to better understand and define the space environment, Geophysics emerged as a prominent player over the years by establishing an enviable record of numerous space experiments flown on over 2,000 high altitude balloons, 1,053 sounding rockets, approximately 170 satellites, and 14 Space Shuttle missions.

At about the same time Cambridge Laboratory was getting started, 3,000 miles away a parallel occurrence was unfolding in the California desert. Here the emphasis was on rocketry. In 1947, precipitated by defense reorganization plans that proposed a move of Army and Air Force rocket testing from Wright-Patterson AFB to Muroc Air Base (now Edwards AFB), emerged the first traces of what by 1963 would become the Rocket Propulsion Laboratory, and later still, in 1987, the Astronautics Laboratory. For its part, the Astronautics Laboratory had been the nation's focal point for developing and testing rocket boosters to launch missiles, spacecraft, and military satellites.

The third leg of PL's current family of laboratories finds its roots in the Air Force Special Weapons Center (AFSWC) established at Kirtland AFB in 1952. Charged with developing and testing nuclear and other special weapons, including systems components and delivery systems, the Center was also responsible for detecting atmospheric nuclear tests and

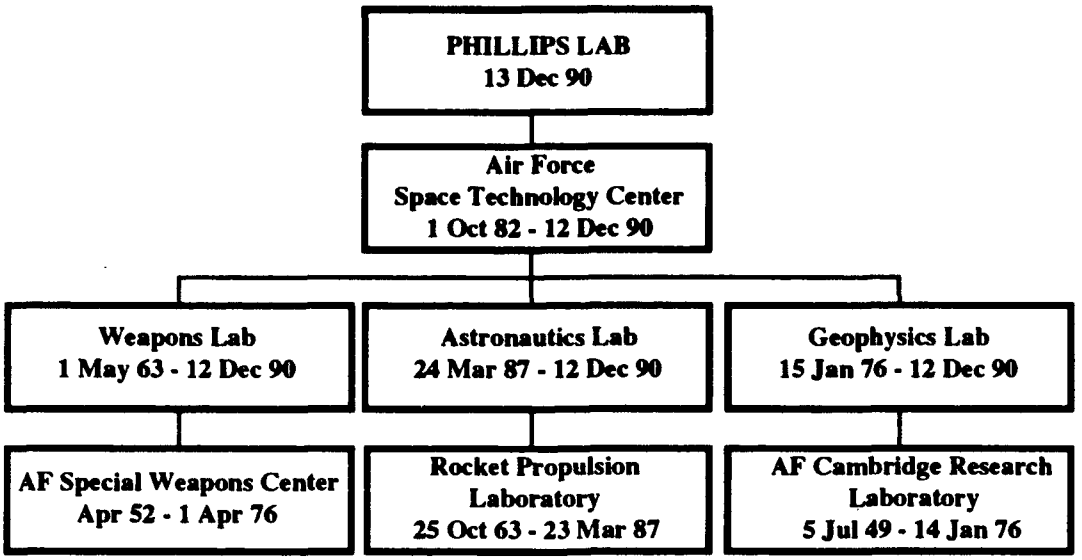

Figure 1: Phillips Lab Heritage

those conducted in space. In a subsequent reorganization, elements of AFSWC's Research and Development Directorates formed the Air Force Weapons Laboratory (AFWL), which opened at Kirtland in May 1963. The Weapons Laboratory had an extensive array of technical activities focusing on space experiments, nuclear weapon effects, developing electronic and sensor components that can survive in space, and developing directed energy (lasers, microwaves, and particle beams) and other advanced weapon concepts for space applications.

Initially, each of the three laboratories reported directly to AFSC's Director of Laboratories, located at Andrews AFB. But with the establishment of the Air Force Space Technology Center (AFSTC) at Kirtland in October 1982, reporting authority for the labs shifted from Andrews to Kirtland. Planning and managing Air Force space research and development programs, and seeking the eventual transition of their technologies to operational systems was the new Center's mission. A secondary responsibility was to supervise and coordinate the technological activities of its three subordinate laboratories.

AFSC had created AFSTC to better support the new Air Force Space Command (SPACECOM), based at Colorado Springs, Colorado, which had also been inaugurated in 1982. Under this new organizational scheme, the three labs reported to AFSTC instead of directly to AFSC. As for AFSTC, it would now be subordinate to one of the Air Force's several product divisions, in this case, the Space Systems Division (SSD) (now Space and Missile Systems Center [SMC]), located at Los Angeles AFB. Air Force planners had reasoned that subordinating AFSTC to SSD would make the Center more responsive to customer needs, focusing its resources on the timely transition of technology.

On 13 December 1990, AFSTC was redesignated Phillips Laboratory. The three subordinate labs were disestablished at the same time, but their functions and personnel were reassigned to several new technology directorates at PL. PL's mission was to research and develop technologies in three critical areas: space and missile

systems, geophysics, and advanced weapons.

Phillips Laboratory emerged in 1990 as part of a larger reorganization that had emanated from a 1989 Defense Management Review study authored by the Office of the Secretary of Defense. At the time, DOD officials believed there were too many small laboratories, and that to improve efficiency and eliminate duplication of effort, the Air Force's 13 laboratories would merge into four "super laboratories." One was to be Phillips, which could better conduct multi-disciplinary activities and take advantage of synergistic opportunities. By reducing the number of laboratories, the Air Force felt that it could better apply state-of-the-art concepts of science and technology to achieve mission success, streamline the acquisition process, and reduce overhead.

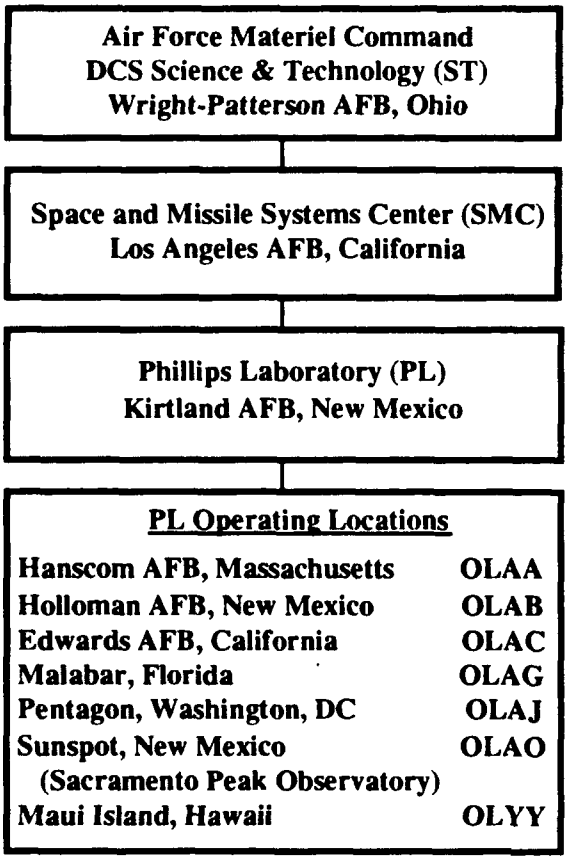

Figure 2: Chain of Command

On 1 July 1992, 18 months after Phillips Lab opened, the Air Force Materiel Command (AFMC) was activated at Wright-Patterson AFB, Ohio, replacing what had been since 1961 the Air Force Logistics Command (AFLC) and Air Force Systems Command. This merger created a single authority responsible for developing, maintaining, and modifying Air Force systems from "cradle to grave." Though PL continues to report directly to SMC, the lab is now part of the new Materiel Command.

It was no coincidence in 1990 that the Air Force named its new space laboratory in honor of retired Air Force General Samuel C. Phillips, a distinguished leader in America's formative space and missiles program. At his retirement in 1975 as AFSC Commander, he predicted, much like earlier planners of the 1940s had in their estimation of air power's eventual role, "The importance of space to our defensive military effort can only increase in the future."

Today, the men and women of Phillips Laboratory are turning that vision into reality by advancing critical spacecraft and missile technologies that range from electronics, sensors, structures, imaging, propulsion, and geophysics to lasers and other directed-energy systems.

Phillips Lab continues to be the Air Force center of excellence for space research and development. The challenge ahead for the Laboratory, as it enters a new era of space exploration, will be to harness and manage the vital technologies needed to produce reliable, advanced space systems that can be readily transitioned to the next generation of operational systems.

IV. ORGANIZATION

Figure 3 provides a view of the organizational structure for PL. There are seven technical directorates and four support directorates. Three of the technical directorates (SX, VT, and RK) focus their efforts on the Space and Missiles technologies. Two directorates (LI and WS)

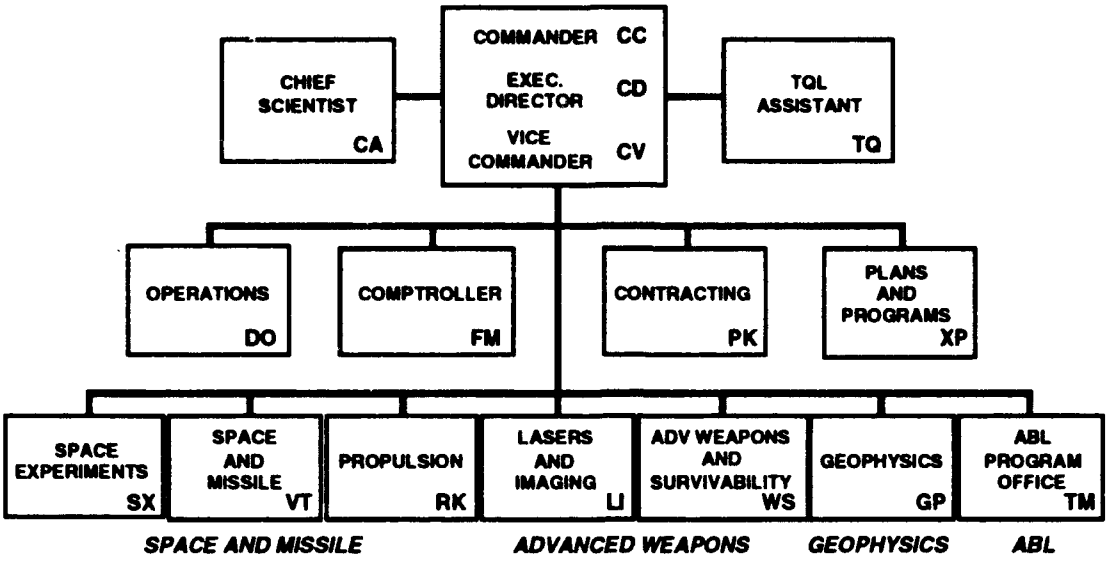

Figure 3: Phillips Lab Organizational Structure

are primarily involved in the Advanced Weapons technologies that support the space control mission area. The Geophysics directorate directs its main emphasis in understanding the environment starting with the surface of the earth extending to the sun. The seventh technical directorate, Airborne Laser Directorate (TM) was established in 1993 to manage the Airborne Laser (ABL) demonstration.

V. FACILITIES.

Phillips Laboratory is geographically separated into three primary locations: Kirtland AFB in New Mexico, Hanscom AFB in Massachusetts and Edwards AFB in California.

Kirtland AFB. This location serves as home for five of Phillips Laboratory's seven technical directorates: Lasers and Imaging Directorate (LI), Space Experiments Directorate (SX), Advanced Weapons and Survivability Directorate (WS), Space and Missiles Directorate (VT) and the Airborne Laser Directorate (TM). Phillips Lab employs over 1150 personnel at Kirtland, which also serves as the headquarters location for the Lab. Kirtland AFB lies at the southeastern edge of Albuquerque, New Mexico, in the heart of the Southwest.

Edwards AFB. Located approximately a one-and-a-half-hour drive northeast of Los Angeles, California, this facility is home for the Propulsion Directorate (RK), as well as some splinter groups affiliated with the Space Experiments Directorate (SX) and the Space and Missiles Directorate (VT) from Kirtland.

Hanscom AFB. Located near Boston, Massachusetts, a large portion of the work that takes place at this facility involves the Geophysics Directorate (GP). GP is the center for research in the environmental sciences. It conducts basic and applied research to support the development of Air Force systems and to provide technical solutions to operational difficulties resulting from the environment.

Other/Operating Locations. Phillips Laboratory maintains operating locations at Maui, Hawaii and Melbourne, Florida. In Maui, the Air Force Maui Optical Station manages satellite and rocket tracking and imaging. The Malabar Test Facility in Florida is used for space tracking and data

collection. Figure 4 depicts where these facilities are geographically located.

VI. CAPABILITIES.

The Phillips Laboratory, a national leader in space research and development, focuses its concentration on several technical areas. Scientists in the laboratory, working with an annual budget of over $700 million, execute in-depth analysis of the technologies involved in developing spacecraft, ballistic missiles, and directed-energy weapons. At the Phillips Laboratory, the integration and transition of its technologies into aerospace systems is strongly emphasized. Because of this more than $500 million is awarded annually in contracts for research and development, supplies and services from the Laboratory's Contracting Directorate (PK). The Phillips Laboratory is tasked with advancing research and development in geophysics, propulsion, space and missiles technology, lasers and imaging, advanced weapons and survivability, and space experiments. The Airborne Laser (ABL) is an Air Force Advanced Technology Demonstrator program being managed by the Air Force's Phillips Laboratory at Kirtland Air Force Base, New Mexico.

Geophysics. Phillips Laboratory researchers at Hanscom Air Force Base, Massachusetts attempt to better understand areas such as space and ionospheric physics, atmospheric and earth sciences, and optical and infrared technologies. They work to create geophysical models and databases, design standards, and prototype hardware and software.

Propulsion. Propulsion work focuses on advanced concepts involving rocket engines, motors and propellants. The majority of this work occurs at Edwards Air Force Base, California.

Space and Missiles Technology. This Directorate manages a wide range of technologies to improve surveillance sensors, radiation-hardened electronics, structures, power, thermal management, and next-generation space-based radar.

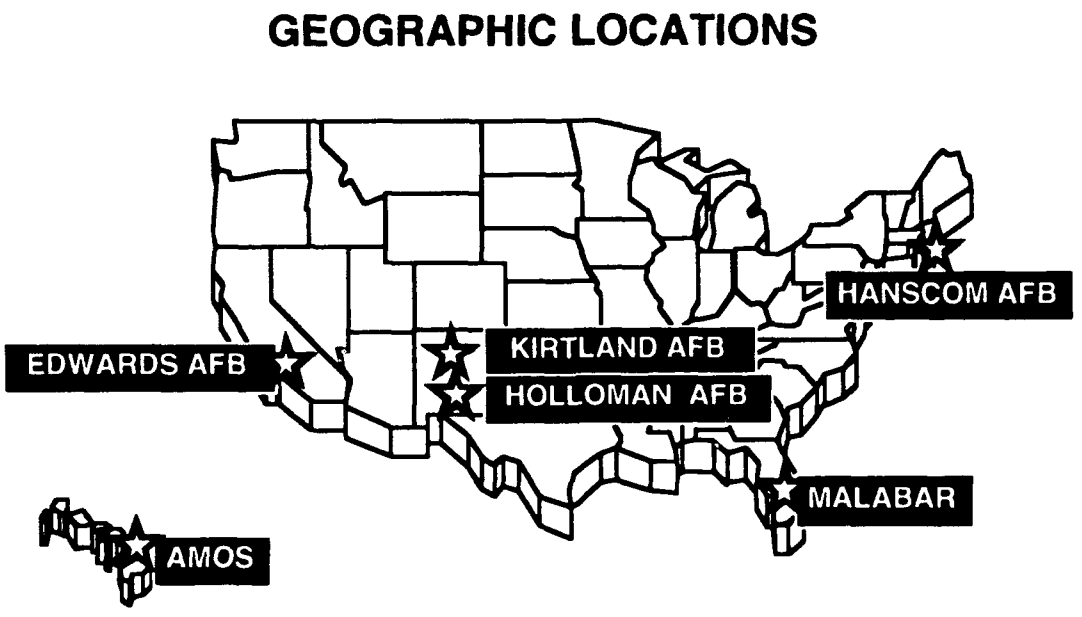

Figure 4: Phillips Lab Operating Locations

Lasers and Imaging.

Phillips Laboratory researchers work on a variety of projects including advanced passive and active imaging technologies and laser technologies for ground-based, airborne, and spacebased systems as well as advanced acquisition, tracking and pointing technologies.

The LI Directorate has three optical sites -- the Starfire Optical Range at Kirtland AFB, and the Air Force Maui Optical Station in Maui, Hawaii, and the Malabar Optical Site in Florida. The directorate also has a flying platform - the ARGUS aircraft - which is used to conduct airborne imaging experiments.

Advanced Weapons and Survivability. Research in this area is conducted in order to find ways to make military equipment survivable against nuclear weapons. The Survivability tests are conducted on satellites, aircraft and other military hardware. Possible advanced weapons being studied by Phillips Laboratory include microwaves and high energy plasmas.

Space Experiments. Through space experiments, and ground, airborne and balloon-borne research, Phillips Laboratory gathers scientific data and demonstrates developed technologies.

ABL. involves developing and then demonstrating technologies to acquire, track, and kill theater ballistic missiles during the ascending, rocket-powered portion of their flight (boost phase). As envisioned, the ABL weapon system -- a laser-equipped aircraft flying well within friendly airspace -- will be able to destroy multiple enemy tactical ballistic missiles shortly after these missiles are launched from random, previously unidentified sites.

PL Policies

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

Contract Law and Laboratory Support Div.
377 ABW/JAN
(505) 846-1542; DSN 246-1542

PL Chief Scientist, PL/CA
(505) 846-0861; DSN 246-0861

II. DISCUSSION

General. PL personnel are expected to comply with normal courtesies and customs of the Air Force. DOD, Air Force, AFMC, SMC and local regulations and policies apply to PL. Specific procedures for the Laboratory are contained in PL regulations which are available in each Directorate and most Division offices. From time to time, a policy letter may be issued from the Commander's office. These letters will be incorporated into appropriate regulations if the matter is of a continuing nature. The PL relies to a great extent on its in-house capability. Technical competence and timeliness are of primary importance to all phases of our work. PL personnel have many contacts with outstanding scientists, both in military and civilian organizations. These contacts will be reflected in the respect afforded the Laboratory by the scientific and technical community. Personal bearing, appearance, conduct, and language are important in maintaining the image of the Laboratory and the USAF.

Standards of Conduct. The U.S. Office of Government Ethics has issued regulations entitled Standards of Ethical Conduct for Employees of the Executive Branch. The Department of Defense, in turn, issued DOD Directive 5500.7 implementing those standards of conduct. These standards cover topics such as interactions with non-federal entities, travel benefits, political activities, post-separation employment, required disclosures, gratuities and other conflicts of interest. You should have received a briefing on these standards when you entered the service and annually thereafter. The 377 ABW/JAN is available to further advise on these matters.

Self-development. PL personnel are encouraged to enhance your technical/professional capability by participation in symposia and technical meetings, and the many off-duty education courses that are offered both on and off base. The Technical Library and other information sources are available.

Communication. All personnel of the Laboratory are encouraged to maintain informal in-house communications on technically related work. We are all part of the PL team and each one in his/her own way can enhance the effort and prestige of the Laboratory. No one should be too busy or too unattainable to assist in the free flow of our business information and technical data.

Committing Resources. PL personnel must be aware that no one can commit government funds unless specifically authorized to do so. Project Managers DO NOT HAVE THIS AUTHORITY. It is also the policy of the Laboratory that only the Commander or his designated representative can commit the Laboratory to support other government agencies.

Publication of Scientific/Technical Articles

A major objective of the Phillips Laboratory is the transfer of information and technology to outside organizations. One of the most effective means of ensuring that others know what we have done is through the publication of the results of our investigations. Within DOD, publication of our results can be accomplished by way of

Technical Reports or other similar channels. This transfer of infor-mation to the scientific and technical community may also be accomplished through technical journal articles, books, book chapters or other means.

The publication of peer-reviewed articles in the scientific literature is a major achievement for every scientist and engineer. The expertise, ability, and dedication required to carry an investigation through to completion is the primary measure of success in the scientific community and the technical reputation of an organization is strongly dependent on the quality and number of publications its researchers produce. The peer-review process is an exacting one and publishing an article which has satisfied this system demonstrates exceptional competence. The quality of the article significantly enhances the reputation of the researcher, the Phillips Laboratory and the Air Force as well as contributing information to the scientific literature.

Every individual is highly encouraged to publish the results of their scientific and technical research. Guidance on how to prepare manuscripts for publication can normally be obtained from a number of professional societies (AIAA, IEEE, etc.) or from the journal publisher itself.

It is normal practice for a publisher to require a fee to have technical papers and articles published in technical magazines. The fee is usually on a per-page basis. It is PL policy to pay for these publication charges if the work was accomplished while the author was assigned to PL. The author must be a federal employee (military or civilian) of the Phillips Laboratory, the article must report work performed at PL, and PL must be cited as the author's organization. Contact the Directorate of Contracting (PL/PK) for additional information and guidance.

Phillips Laboratory Corporate Planning Process

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Plans Division, PL/XPX
(505) 846-4851; DSN 246-4851

Plans and Programs Directorate
Program Integration Division, PL/XPP
(505) 846-4329; DSN 246-4329

II. GENERAL

AFMCR 500-24 sets general policy for the Science and Technology (S&T) investment planning process to ensure the quality and relevance of our programs, and, through teamwork and planning, expeditiously transition technology into future weapon systems. In the paragraphs to follow we will describe the procedures, time frames, and functions of the Phillips Laboratory Corporate Planning Process. The goal of the planning process is to ensure the development of science and technology to support future Air Force mission needs and user requirements in an efficient and timely manner. Early acquisition strategy planning helps PL to fully meet user needs. All managers, scientists, engineers, technical staff, and planners must understand and participate in this planning process.

Each year, the S&T planning cycle consists of receiving or developing technology requirements, establishing planning groups, then developing new programs or modifying old programs, allocating resources for the programs, and finally briefing and receiving feedback on the relevance and utility of the programs (See Figure 1). AFMCR 500-24, Technology Master Process, establishes the overall guidance for the annual S&T planning cycle. The significant portions of this policy are covered in this section. The complete directive is available in PL/XP if you are interested.

While the overall planning philosophy and schedule of the referenced guidance applies to all S&T efforts, the specific steps covered here apply to the Laboratory's 6.1, 6.2, and 6.3 funded resources. Other S&T funds such as Small Business Innovative Research (SBIR), Ballistic Missile Defense Organization (BMDO), Technology Reinvestment Program (TRP), Advanced Research Projects Agency (ARPA), Air Force Office of Scientific Research (AFOSR), etc., often have additional planning and schedule requirements. However, all programs, regardless of funding source must be considered and evaluated as part of the Phillips Laboratory planning process before commitment of Laboratory resources, including manpower and facilities, can be made.

The Plans and Programs Directorate (PL/XP) is the Phillips Laboratory organization charged with overall responsibility for the Laboratory's part of this annual planning process. XP will provide general guidelines, specific direction as it becomes available or necessary, and track our progress and compliance with higher headquarters suspenses and guidance. XP will provide periodic status reports and identify/evaluate potential problems for the Laboratory Corporate Board, which consists of the Commander, Executive Director, Chief Scientist and all Directors.

III. PLANNING GROUPS (MID-OCT)

The planning cycle begins with the approval and publication of the current year's Technology Area Plans (TAPs). The Air Force Acquisition Executive (AFAE) normally approves the TAPs not later than 1 October. By mid-October, the technical directorates, in collaboration with the respective XP support division, will establish the appropriate planning groups.

There will be a planning steering group for each technical directorate, and a technology planning subgroup for each major thrust. Membership in each group will be determined by each director, based on recommendations from the XP support division. The steering group should be chaired by the XP support division chief, and members should include, as a minimum, the directorate deputy director and associate chief scientist, and the appropriate XP Strategic Plans Division Technical Planning Integrated Product Team (TPIPT) members. Each subgroup should be led by the appropriate XP support division planner, and supported by as many of the technical project managers as possible. Project manager participation is crucial, as this will be their plan.

XP will supply current direction, guidance, up-dates from the previous year, lessons learned, etc., not later than 1 November. XP will supply any additional guidance as it becomes available from AFMC, SAF, etc. This will form the initial basis for TAP and Spring Review preparation. The planning groups start developing the outline for the TAPs, and begin gathering and compiling relevant information. Each planning subgroup will conduct a mini-requirements review appropriate to the major thrust, update the baseline technical roadmaps for the thrust, and recommend fiscally constrained adjustments to the roadmaps, to include new starts, additional resources to ongoing programs, and program deletions/descopes. Information sources for these planning subgroups should include the current fiscal year TAP, TPIPT roadmaps (from SMC, ASC, ESC, and HSC, as appropriate), current descriptive summaries and POM inputs, results from any studies and analysis efforts, and any communications with users, system developers, etc.

The planning subgroups will develop the preliminary thrust inputs to the TAP, with supporting rationale and roadmaps. Each subgroup leader will submit a written status report to XP at the beginning of each month, beginning with November until the TAPs are formally submitted to AFMC/ST.

The final draft text of the TAPs is due in February, while all final draft annexes and appendices are due by 1 July. The purpose of having the draft TAP text due in February is to ensure that Congress gets the final TAPs early enough. Formal guidance for the annual TAP submission will be issued by AFMC/ST before 15 January, IAW AFMCR 500-24.

IV. STRATEGIC OPPORTUNITIES REVIEW (MID-NOV)

Requirements gathering culminates with the Strategic Opportunities Review (generally in mid-November) hosted by the Plans and Programs Directorate. This is the MAJCOMs', TPIPTs', and other major PL technology users' opportunity to provide the Laboratory's Corporate Board with capability needs or mission changes that could be answered with future technology programs. The Strategic Opportunities Review also forms the basis for the Laboratory's Advanced Technology Transition Demonstrations (ATTD) and Critical Experiments (CE) data call. An Advanced Technology Transition Demonstration (ATTD) is a 6.3A funded program with the specific objective of meeting a user's defined need through a risk reducing "proof of principle" demonstration at the subsystem, or higher level, generally in an operationally realistic environment. A Critical Experiment (CE) is a 6.3A funded program to demonstrate technical feasibility at the component or subsystem level, generally in a laboratory environment.

V. INITIAL PROGRAM AND RESOURCE DIRECTION (MID-DEC)

In December of each year, PL/CC will provide the technical directorates an initial allocation of resources for the next fiscal year. This initial allocation will be based on information from the Strategic Opportunities Review, TPIPT inputs, AFAE guidance, the President's budget, and any other appropriate sources. The directorates, through their project managers, then propose new programs, or

modifications of existing programs, in response to guidance, the allocation, and user needs. (See Figure 2 for an example of the process for proposed new program contracts using 6.2 or 6.3A funds).

An update to capability needs and technology opportunities will be provided by the TPIPTs in mid-January to mid-February, if needed. In January of each year, the Laboratory also receives additional AFAE guidance and other high level information on technology or capability needs.

The data call for draft one-page ATTD/CE data sheets will normally occur in mid-January. XP then takes these drafts, provides comments, and seeks comments from the appropriate TPIPTs. XP and the TPIPTs will be looking for the linkage between the programs and the TPIPT roadmaps and the user of the technology program. Proposed 6.3A ATTDs and CEs will be evaluated for linkage to identified user capability shortfalls.

A Technology Transition Plan (TTP) must be provided for each ATTD, and for Critical Experiments at the discretion of the Laboratory Commander. The TTP is an agreement between the Laboratory, the appropriate product center technology transition planning OPR (for SMC, this is SMC/XRT), and the recipient of the technology (a System Program Office, or SPO, a MAJCOM, etc.). The TTP documents the specific tasks that must be successfully completed prior to technology acceptance.

VI. DIRECTORS PRESENTATIONS (FEB)

In February, the technical directorates will brief the Laboratory Corporate Board (i.e., the Commander, Executive Director, Chief Scientist and all Technical and Support Directors) on the proposed programs for the next fiscal year. These Directors' Presentations will include funding information, personnel, facilities, and priorities in their 6.2 and 6.3A program areas, as well as impacts of possible funding cuts or new program starts for increased funds. These will be based on the initial resource direction +/- 20 percent. These presentations must also document impacts to manpower and facilities by outside funding sources.

These presentations will include funding and schedule status, status of yearly Technology Transition Plan (TTP) review, and any unresolved issues, of all ongoing ATTDs. All proposed new start ATTDs will be presented with funding profile and source(s), proposed baseline schedule, and draft TTP with recommended participants. ATTDs should generally be linked to defined user needs, either from the Strategic Opportunities Review or from TPIPT roadmaps. Each proposed new start CE will also have either a draft TTP, or a "No TTP required" recommendation (with written rationale) for PL/CC to forward to AFMC/ST. SMC/XR is the Center technology transition (T^2) OPR, and is a source of information on the coordination of TTPs.

VII. FINAL PROGRAM AND RESOURCE DIRECTION (FEB)

After the Directors' Presentations, PL/CC will provide approval or further guidance to the directorates. The Final Program and Resource Direction is a joint effort by XP, FM, CA, CD, and CC. It provides the baseline funding for the TAPs (current fiscal year +1) and program direction for the current fiscal year +2. It will also serve as approval for submittal of ATTD one-page data sheets to AFMC/ST for distribution to the MAJCOMs for review and scoring.

VIII. TECHNOLOGY AREA PLANS (FEB-MAR)

The Directorates, with the aid of XP, will then complete drafts (including all annexes) of the three Phillips Laboratory Technology Area Plans: Space and Missiles, Geophysics, and Advanced Weapons. These TAPs outline the programs for the next year and six years into the future. Combined with the Basic Research and the Wright, Rome,

and Armstrong Laboratory TAPs, they also serve as the official documentation of the total AF research and development program. They are used to ensure that all S&T program objectives are documented, and that appropriate resources are dedicated to meet those objectives (reference AFMCR 500-24).

Technology Investment Plans (TIPs), which describe all new start efforts except non-contractual 6.2 and 6.3A in-house work, are an important part of each TAP. Format and procedures for TIPs, both in-cycle and out-of-cycle, and Acquisition Investment Plans (AIPs), required for new programs with a total value of $25M or more, are found in AFI 61-105, Planning for Science and Technology. "Performance" includes system reliability, maintainability, and supportability, so each TAP thrust must also address how the technologies described support and enhance these "ilities." The TAPs, with annexes, serve as the AFAE approval document for Air Force 6.1 and 6.2 programs. While 6.3A programs are included in the TAPs for completeness, signed Program Management Directives (PMDs) are the approval documents for all 6.3A programs.

The first draft text of the TAPs is due in January. First draft TAP annexes and appendices are due to AFMC/ST on approximately 1 April each year. Each technical director is responsible for the accuracy and completeness of all TAP sections within his purview. Consistency of funding profiles among the text, figures, and various annexes needs particular emphasis.

The draft TAPs will be distributed to all AF laboratories and AFOSR for review and comment. During April and May, each technical directorate and XP support division will review all twelve AF TAPs for accuracy, overlap, duplication, and opportunities for collaboration. Issues must be identified through XP to CC early enough to accomplish resolution prior to the formal laboratory coordination process in early June.

While not actually part of the TAPs, documented technology transition plans, prepared by the laboratories, with user and program management involvement, are required for each ATTD and CE. Therefore, the directorates will also produce Technology Transition Plans for any new ATTDs, which will be signed by appropriate users, MAJCOMs, SPOs, etc., before funds can be spent.

IX. SPRING REVIEW (APR-MAY)

The next step is the Spring Review, which occurs in April or May. This is the Laboratory's opportunity to brief the contents of the TAPs to AFMC/ST, the Air Staff, and other interested Air Force groups. AFMC/ST is a General Officer who serves as the Technology Executive Officer (TEO) for all AF S&T programs. Special emphasis is placed on ATTDs. Ongoing ATTDs are reviewed for funding and schedule compliance, and status of the yearly TTP review. Proposed ATTDs will include baseline schedule and funding for TEO approval, as well as an updated draft TTP with anticipated participants identified. The TAPs are modified, if needed, and receive TEO approval in July. Formal coordination of the TAPs with the other AF laboratory CCs begins in June, and AFAE staff review and approval begins in mid-July.

X. 6.3A REVIEWS (JUN-JUL)

During June and July, the planning cycle encompasses the 6.3A Reviews at the MAJCOMs. The MAJCOMs select the ATTDs and CEs to be briefed because of special interest or need for more information. Project Managers may be called on to brief the selected programs. Close coordination with SMC/XR is necessary prior to these briefings to ensure that the briefings communicate relevance to the user, in the user's terms of reference and understanding. After the reviews are completed, the MAJCOMs score the programs on a scale of 6 to 10, according to the program's importance to the command.

The score is an indication of how well the program meets the user's needs, as well as how the program is put together with respect to cost, risk, and schedule. This scoring is very important in prioritizing the 6.3A programs in the Air Force, because of limited funds. Programs which receive low scores (< 8.0) are vulnerable to cancellation. The results of the scoring are available in August.

XI. AFAE FALL REVIEW (SEP)

Finally, in September, the annual cycle ends as the TAPs are briefed to AFAE by the TEO, and the AFAE approves the TAPs, generally by 1 October. This step constitutes execution approval to the Laboratory, with the additional stipulation that all new start ATTDs must have completed Technology Transition Plans before obligating any 6.3 funds.

During July through November the TAPs are scored by the Scientific Advisory Board (SAB) for scientific quality, and by the logistics centers, test centers, and the product center development planners (XRs) for relevance. Comments and scores from the SAB and center evaluations provide an initial starting point for development of the next TAPs, as the planning process begins anew.

XII. OTHER PLANNING ACTIVITIES

Concurrently, other, independent, planning actions occur throughout the cycle. Mission area plans and technology roadmaps structure a balanced S&T investment strategy. These plans must be continually modified to respond to changes in threat, budget changes, and to capitalize on breakthroughs in technology.

The Command's XRs are the bridge between the laboratories' understanding of operational needs and the users' understanding of emerging technological opportunities. SMC/XR performs this through the TPIPTs. The draft Commander's Policy letter "Technical Planning Teams/Technical Application Teams" further challenges the TPIPTs, organized by mission or functional areas, "...to gather, analyze, coordinate, and disseminate information in each mission or functional area." The TPIPTs are to produce development roadmaps containing solutions to user needs, covering both new conceptual systems and major modifications to existing systems. Primary focus will be on long range planning. Additionally, the Technical Planning Integrated Product Teams actively review proposed programs, looking for technology transition opportunities, updating roadmaps, and providing user interfaces. Review of TPIPT activities by the TPIPT O-6 Steering Group in March and September, and approval of TPIPT roadmaps by the TPIPT Board in October, ensure that TPIPT products and guidance will be available for the Strategic Opportunities Review in November, and to validate TAP planning prior to Spring Review.

XIII. PROJECT MANAGER'S PLANNING PROCESS CHECKLIST

Each project manager should understand the preceding information dealing with the Phillips Laboratory planning process. The following checklist is a quick reference of some project manager responsibilities relating to the planning process:

--Participate with appropriate TPIPTs all year long. This does not necessarily mean that you should go to every TPIPT meeting. You should keep in touch and attend meetings when it makes sense to do so. PL/XPX can help you decide which TPIPTs relate to your projects.

--Participate in technology planning subgroups (see PLANNING GROUPS above).

--Attend appropriate sessions of the Strategic Opportunities Review, looking for user needs and opportunities for ATTDs and CEs (see STRATEGIC OPPORTUNITIES REVIEW above).

--After PL/CC's initial allocation of resources for the next fiscal year, propose new programs or modifications of existing programs (see INITIAL PROGRAM AND RESOURCE DIRECTION above).

--Provide inputs for Directors' Presentations, including proposed new start ATTDs and CEs (see DIRECTORS' PRESENTATIONS above).

--If approved by PL/CC's Final Program and Resource Direction, submit ATTD one-page data sheets to AFMC/ST for MAJCOM scoring (see FINAL PROGRAM AND RESOURCE DIRECTION above).

--Provide TAP inputs and review appropriate parts of draft TAPs (see TECHNOLOGY AREA PLANS above).

--Prepare Technology Transition Plans for new ATTDs and CEs (see TECHNOLOGY AREA PLANS above).

--Provide Spring Review inputs, especially for ATTDs (see SPRING REVIEW above)

--Brief selected ATTDs and CEs at 6.3A Reviews for MAJCOM scoring (see 6.3A REVIEWS above).

--Follow developments in mission area plans and roadmaps, contributing as appropriate (see OTHER PLANNING ACTIVITIES above).

XIV. CONCLUSION

These actions throughout the year provide a system of requirements gathering, program starts, reviews, resource allocations, and feedback. These, in turn, drive what the Laboratory is to do. They require teamwork, preparation, and cooperation. The results will be a better, and technologically superior, Air Force.

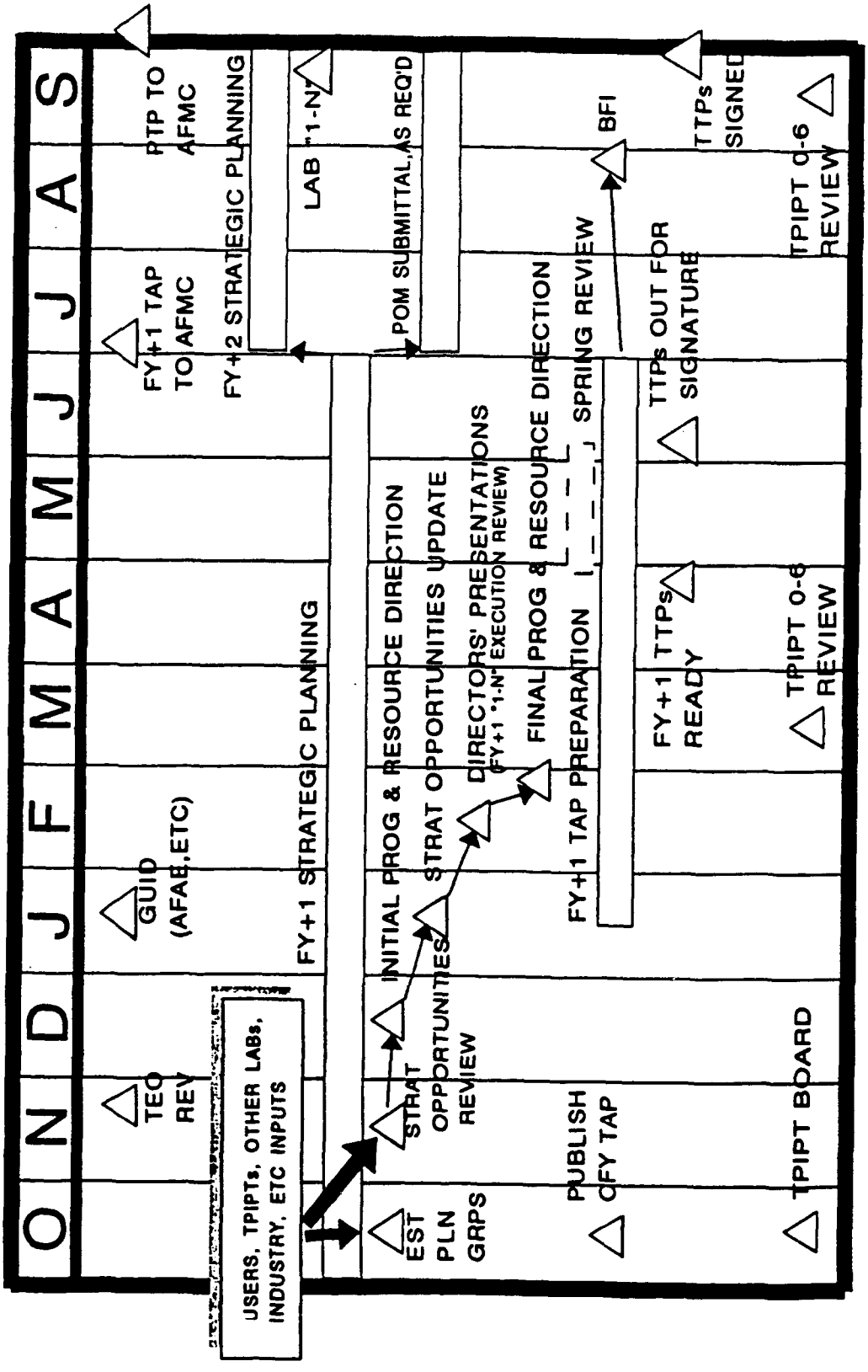

Figure 1. PL Planning Process

NEW START PROCESS

FLOWCHART

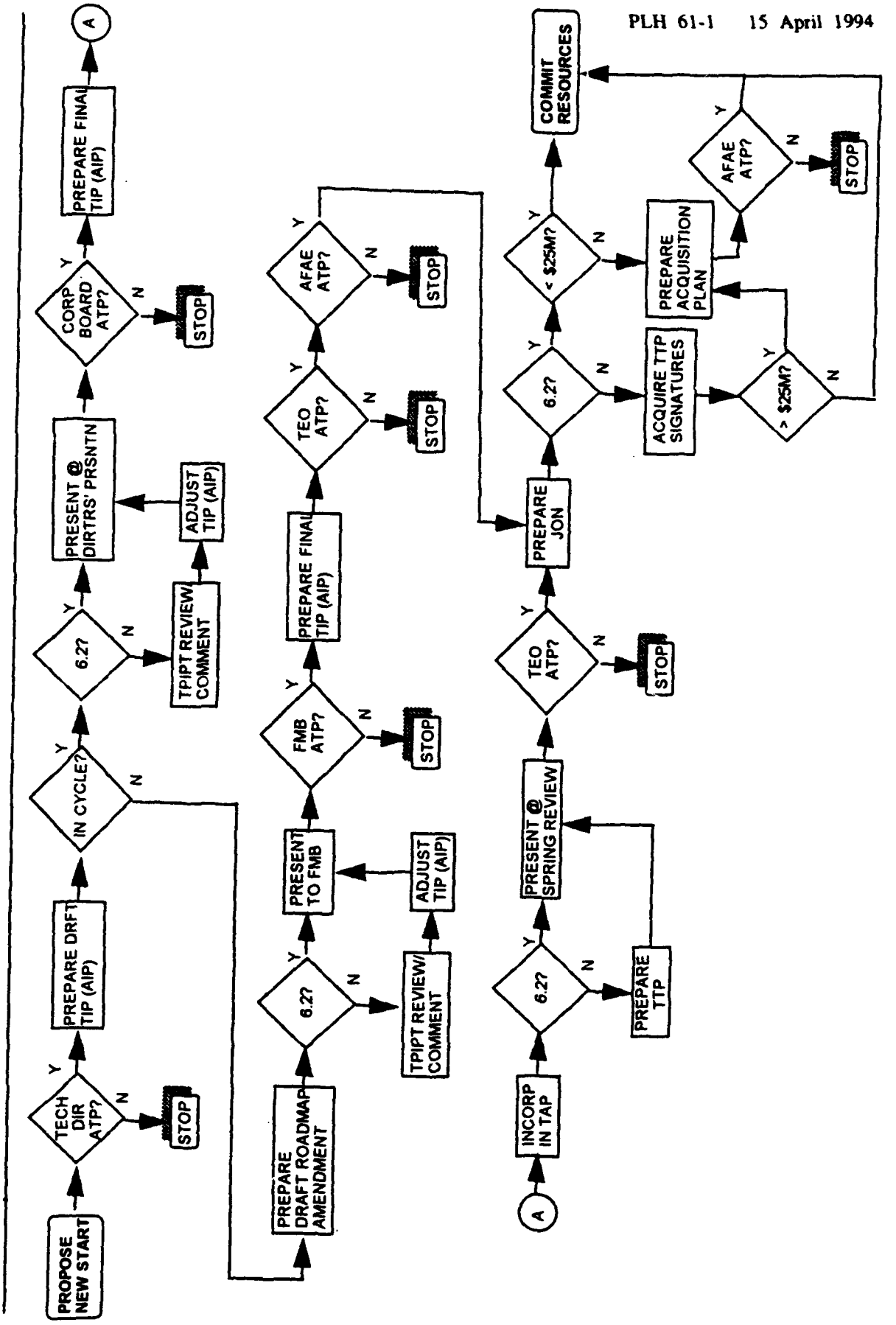

Figure 2. Example of the PL New Start Process (6.2 & 6.3A Contracts)

Planning, Programming, and Budgeting System

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

The Department of Defense (DOD) Planning, Programming, and Budgeting System (PPBS) is the resource management system for the Secretary of Defense (SECDEF). The function of the PPBS is to develop a plan, formulate a program to implement the plan, and price the program to produce the DOD budget request. The DOD budget then becomes part of the President's Budget (PB) which is submitted to Congress.

Prior to 1986, the PPBS was an annual cycle and resulted in a single fiscal year's budget being submitted to Congress each January. The FY86 DOD Appropriation Act implemented biennial PPBS for DOD and requires a two-year budget submission in January of the odd-numbered years.

III. PLANNING

The key documents used in the planning process for PPBS are the National Military Strategy Document (NMSD) and the Defense Planning Guidance (DPG). The NMSD is prepared by the Joint Chiefs of Staff (JCS). It provides the views of the JCS and the Military Departments on the military role and posture of the United States and DOD in the world environment. The advice contained in the NMSD is used by the President, the National Security Council, and the Secretary of Defense. The Office of the Secretary of Defense (OSD) considers the military advice contained in the NMSD along with the comments of a variety of governmental agencies when it prepares the DPG. The DPG provides coordinated SECDEF guidance to the Services for development of their Program Objective Memorandums (POM) and culminates the Planning Phase.

IV. PROGRAMMING

The programming phase is the point in the PPBS process where the Air Staff matches available resources against the most critical validated requirements to develop the POM. This phase addresses policies and guidance issued during the planning phase. Air Force Materiel Command (AFMC) develops their portion of the POM by ranking and prioritizing their programs based on inputs from the field and using commands. They also use disconnect and initiative support papers as an integral part of the POM process. Ultimately, OSD review of and decisions on the Air Force POM are documented in a Program Decision

Memorandum (PDM) signed by the Deputy Secretary of Defense (DEPSECDEF). The PDM represents the SECDEF's position on force levels, approved programs and funding, and serves as the starting point for further budget estimating activities within the Services and culminates the Programming Phase.

V. BUDGETING

During the Budgeting Phase, HQ AFMC tasks all field units to prepare budget documentation to support a Budget Estimate Submission (BES) to Air Force. The BES provides fine-tuned cost estimates of POM-approved programs and includes fact-of-life changes since the POM submission. No new initiatives are accepted at this time. The Air Force consolidated BES is submitted to OSD. The OSD and Office of Management and Budget (OMB) review of the BES results in Program Budget Decisions (PBDs) which modify the BES. The PBDs provide the Services with their final, SECDEF-approved program budgets and form the baseline DOD program submitted in the PB.

VI. PPBS: A CONTINUING PROCESS

The PPBS is an ever-evolving process without a definite start or end. However, during each two-year cycle, HQ USAF prepares five "snapshots" (formal funding positions) of the total Air Force program. Each snapshot usually becomes the baseline for the next, but the emphasis is on the years shown below:

--Program Objective Memorandum (POM) emphasizes six years.

--Budget Estimate Submission (BES) concentrates on the first two years.

--President's Budget (PB) concentrates on the first two years.

--Amended BES (ABES) concentrates on the second year.

--Amended PB (APB) concentrates on the second year.

VII. FUTURE YEARS DEFENSE PROGRAM (FYDP).

The POM formulation and review process is probably the most all-encompassing activity in the DOD during peacetime. Nearly everyone at every organizational level is involved to some extent. All activities require resources to function and perform their missions. The POM process is the vehicle through which these requirements are validated and the accompanying resources are programmed in the DOD Future Years Defense Program (FYDP).

The PPBS operates within the framework of the Future Years Defense Program (FYDP). The FYDP is the official document which summarizes the SECDEF-approved programs for OSD. It displays total resources (forces, manpower, and funds for all appropriations) assigned to each approved program.

The Assistant Secretary of Defense (Comptroller) maintains the FYDP. Services also have a copy in their budgeting/ programming databases. The Air Force's Force and Financial Plan (F&FP) database maintains a copy of the Air Force portion of the FYDP.

The FYDP (database) is updated five times during each two-year PPBS cycle. The mechanism for these updates is the program exercise (i.e., POM, BES/ABES, and PB/APB). An "exercise" is an AF-wide effort to restructure the F&FP database to comply with OSD guidance.

VIII. PL'S ROLE IN PPBS

PL/XPP is the office of primary responsibility (OPR) for PL's PPBS submissions and interface with SAF/AQT and AFMC/ST offices. PL/FM serves as the office of corollary responsibility (OCR) due to the financial implications. When Air Force conducts their periodic exercises, XPP receives the taskings (including guidance

and required documentation) through HQ AFMC. XPP, in turn, requests inputs from the XP 3-letters for the respective program elements they manage and oversee.

The XP 3-letters have individuals designated as the local Program Element Planners (PEPs). The PEPs develop their respective program element inputs in conjunction with the Directors, BPAC and Task managers that have a vested interest. Program justifications, impact statements, and cut drills are all worked at this initial level.

XPP integrates the inputs from the XP 3-letters and prepares a final package for Laboratory Commander's review and approval.

Internal Management Control (IMC) Program

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller, PL/FM
(505) 846-2758; DSN 246-2758

II. GENERAL INFORMATION

Management at every level within the Laboratory is responsible for establishing, evaluating and improving internal management controls. Management's implementation of the Phillips Laboratory's Internal Management Control Program (IMCP) directly supports the Laboratory Commander's Annual Statement of Assurance of the Space and Missile Systems Center Commander. The Federal Manager's Financial Integrity Act (FMFIA), implemented by OMB Circular A-123 and DOD Directive 5010.38, requires this annual statement on the status of internal management controls from the Secretary of the Air Force, MAJCOMs, SOAs and DRUs. These organizations have in turn required the same statements from their subordinate units. The OMB guidelines require segmenting the Air Force into assessable units; assessing (at least every 5 years) the vulnerability of those functions to mismanagement that could lead to waste, loss, unauthorized use, or misappropriation; and performing internal management control reviews to address those functions determined to have high to moderate vulnerability.

III. PHILLIPS LABORATORY IMC PROGRAM

Internal management controls and self-inspection are inherent management responsibilities at all levels of command within the Phillips Laboratory. All Air Force functions within the Phillips Laboratory, regardless of operating location, are to have adequate, working and cost effective internal management controls and self-inspection programs as part of their management process. The objectives of the Internal Management Control Program are to provide the Laboratory Commander with reasonable assurance that: (1) assets are being safeguarded against waste, loss, unauthorized use and misappropriation; and (2) obligations and costs comply with applicable laws. As specified in the OMB guidelines, the concept of reasonable assurance recognizes that the cost of internal management controls should not exceed the benefits expected to be derived therefrom, and that the benefits consist of a reduction in the risks of failing to achieve the stated objectives. Estimates and judgments are required to assess the expected benefits and related costs of internal management control procedures.

The Phillips Laboratory Internal Management Control Program is implemented at all levels of the Laboratory and is aimed at the efficient and effective use of Air Force and Laboratory assets in all functional areas. Its objective is to ensure that Phillips Laboratory organizations establish and maintain a cost-effective system of internal management controls which provide reasonable assurance that resources (people, equipment, money and information) are protected against fraud, waste, mismanagement or misappropriation and that both existing and new activities are effectively and efficiently managed to achieve organizational goals.

The Internal Management Control Program includes establishing internal management controls, evaluating these controls, determining if there is reasonable assurance the objectives of internal management control are being met, reporting material weaknesses, and the follow up and tracking of these material weaknesses to ensure they are properly addressed. The term "internal management controls" applies to all Air Force activities within the Laboratory, including program

and administrative areas as well as financial management areas.

The Phillips Laboratory Internal Management Control Program consists of three basic elements: (1) the Self-Inspection Program (SIP), (2) the Vulnerability Assessments (VA)/Internal Management Control Review (IMCR) process and (3) external oversight systems. The first two elements make up the dual-axis approach conducted by the Laboratory itself, with: (1) each Director responsible for the administration of a SIP within their directorate and (2) each Functional OPR responsible for conducting Vulnerability Assessments and Internal Management Control Reviews for a specific function, activity or assessable unit across all directorates. This dual-axis approach provides a basic means for internal self-examination within each directorate of all its activities. First, the directorate SIP monitor will examine the directorate's activities through the Self-Inspection Program and secondly, the Functional OPRs will conduct an examination of specific functions throughout the Laboratory and across all directorates. This approach provides each Director with an internal examination through the SIP and an external examination (yet internal to the Laboratory) through the VA/IMCR process of specific important functions and activities within their directorate. The Laboratory Commander can then examine the results of the SIP for identification of problems within a particular directorate and the results of the VA/IMCRs for the identification of problems which may be occurring across directorates. External oversight systems (i.e., audits, inspections and investigations conducted by agencies external to the Laboratory) make up the third element of the Laboratory IMC Program.

External oversight systems, audits, inspections, and investigations are designed to assist Air Force managers in efficiently and effectively using resources. Project Managers are to immediately notify the Laboratory Internal Management Control Program Office, located in FM (Comptroller), any time they are directly contacted by an external oversight agency (e.g., Air Force Audit Agency (AFAA) and General Accounting Office (GAO))about participating in an oversight function. Once the project manger has notified the IMC Program Office they are expected to cooperate fully with the external oversight agency. Project Managers should reference PLR 15-1, Phillips Laboratory Internal Management Control Program, or contact the PL IMPC Office, if they have any questions regarding internal management controls.

Integrated Weapon System Management (IWSM)

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Plans Division, PL/XPX
(505) 846-4851; DSN 246-4851

Plans and Programs Directorate
Acquisition Logistics Division, PL/XPA
(505) 846-6688; DSN 246-6688

II. OVERVIEW

IWSM is an AFMC management philosophy. It covers the full range of AFMC activities -- from the earliest development leading to an acquisition through sustainment and eventual disposal. It affects all parts of AFMC -- the laboratories, product centers, test centers, logistics centers, and others including the cataloging center at Battle Creek and the disposal center at Davis Montham AFB. While most of the effect is at the product centers and the logistics centers, it will affect PL too. AFMCP 800-60, Integrated Weapon System Management, provides current guidance.

IWSM development started back in April 1991 when 21 programs were selected to separately develop their version of an integrated program. The 21 programs were spread across the acquisition phases and consisted of all types of systems. (GPS was the only space system selected.) The goal was to determine what made sense for each program. The next phase was to determine how to fully integrate the processes within the new program. That meant coordinating activities, setting up lines of communication between the logistics and product centers, and trying to eliminate duplication of activities. When barriers were identified, they were pointed out to headquarters who then worked those issues. During the process analysis phase, eight core processes were analyzed by process action teams. The team recommendations were voted on by a high-level steering committee and the new processes were put in place. The processes were formalized and documented during the process integration phase. IWSM continuously evolved over the first two years. The evolution is continuing as the processes are fine-tuned and things like the technology master process are developed.

III. IWSM AT PHILLIPS LABORATORY

The changes under IWSM will affect PL budgets and influence the priorities of what Project Managers work on. The rest of AFMC is also undergoing major changes due to IWSM initiatives. We need to understand some IWSM terminology, if we are to communicate effectively. Finally, some PL technologies will start transitioning into a mission capable system. For example, the Airborne Laser (ABL) Directorate has already started using IWSM principles.

Single Manager. A key concept of IWSM is the single manager (SM). AFMC is attempting to break down barriers to allow the SM to make decisions and give him/her the flexibility to use funds as needed. For large systems like the F-15 and Global Positioning System, the SM is the System Program Director (SPD). Locally, the Director of ABL is the SPD for the Airborne Laser. To manage major sub-systems, AFMC has established two different types of single managers. A Product Group Manager deals with similar products that have on-going development as well as a large sustainment effort. A Material Group Manager deals with similar products that are grouped due to a common technical expertise. No development is anticipated for material groups.

As you can see from the model in Figure 1, the single manager gets requirements from and provides a product to the primary customer. Working for the single manager

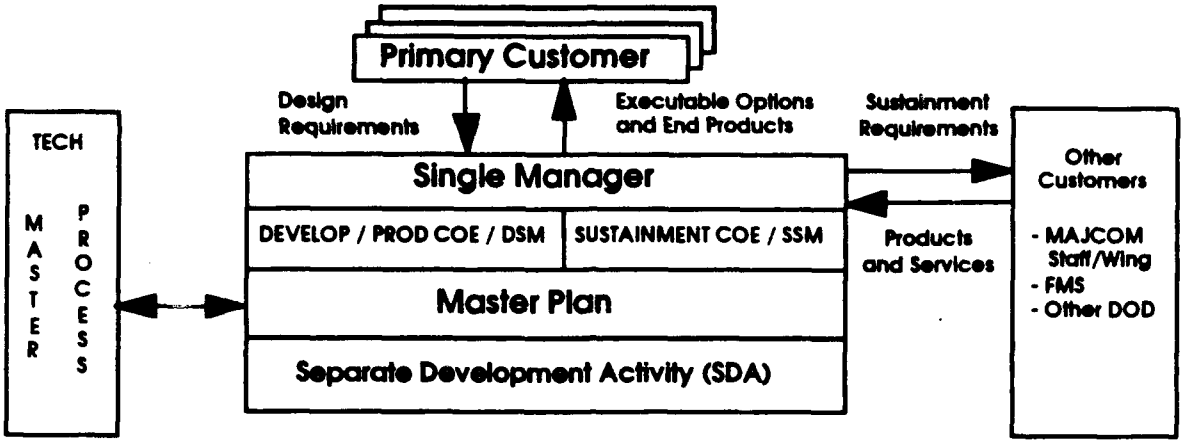

Figure 1. Generic Manager Model

is either a Development Support Manager (if the SM is at a Logistics Center) or a System Support Manager (if the SM is at a Product Center). There is a single, integrated master plan that describes the system throughout it's life. The plan will be updated to provide more details and reflect changes as the system matures. The Technology Master Process is intended to transition technology from the laboratories and make it available to the single manager. The single manager is the key link in the technology-acquisition-sustainment chain.

IV. IWSM PHILOSOPHY

The AFMC philosophy behind IWSM can be broken into eight elements.

Quality Air Force is based on total quality management (TQM) concepts like trust, teamwork, continuous improvement, and customer focus. The bottom line is the question: Is the customer satisfied?

Cradle to grave management makes a single person responsible for the system throughout it's life. No longer is one person responsible for the development, while another is responsible for it's support. There is no transfer of management responsibility.

Single face to the user means that the customer always knows who to contact with questions or concerns. The responsibility is never split.

Seamless process means we will do business the same way no matter where we sit or what phase of the acquisition cycle we are going through. This is where the term "Integrated" in IWSM really has meaning.

Empowered People. Just as the single managers have been given more authority and been provided tools to better manage their systems, they must train and empower their people to make decisions at the lowest possible level. IWSM doesn't mean that the Single Manager does it all.

The common-sense approach was used throughout IWSM development. When in doubt, step back and ask: What should we be doing?

Integrated Product Development (IPD) is a more efficient way to develop items. Whether your product is a bomber or a test report, it makes sense to bring a team of the necessary people together so they can exchange ideas, provide feedback, and expedite the product's delivery. IPD tries to avoid the problems created when we

develop products and then "throw them over the wall" to the next office. Use concurrent rather than sequential development.

Product Focus. Lastly, IWSM focuses on the customer and the product we provide.

V. IWSM PRINCIPLES

IWSM consists of seven underlying principles.

Increased SM Authority. IWSM has given the single manager more responsibility and more control. Perhaps the biggest change is to break down the fences between funds, providing more flexibility to develop and support the product.

Single Business Decision Authority. The single manager is also the single business decision authority. AFMC has given the single manager greater authority to OK his own contracts and has raised the dollar thresholds so that he doesn't have to ask permission as often, prior to proceeding with the contract.

Technology Insertion. The Technology Master Process will provide the link between the laboratories and single managers. It will provide the single manager with the opportunity to move technology into their products.

Integrated product teams (IPTs) are the key to making Integrated Product Development a success. The teams consist of people who can contribute their skills to achieving the product. People will move on and off the team as requirements and processes change.

Management continuity is maintained throughout the life of the system. When the system matures and is predominately in the sustainment phase, the single manager will move to a logistics center.

New partnerships -- not duplication. We can no longer afford to repeat the expertise found elsewhere. Under IWSM, we must work with other laboratories and centers to get access to their centers of excellence. The single manager is expected to form a partnership with those centers to provide solutions to his problems.

Consolidated Acquisition Process. The last principle is that all the past acquisition activities in the Air Force (AFLC, AFSC, AFCC, etc.) have been consolidated under AFMC.

VI. TECHNOLOGY TRANSITION

HQ AFMC/ST serves as the command focal point for technology transition. AFMC/ST has set a goal that 50 percent of the laboratory's 6.3A funds should be spent on Advanced Technology Transition Demonstrations (ATTDs). Laboratories have the technology that single managers are looking for. A Technology Transition Office (TTO) has been created within ASC/SM to act as a technology broker and help with funding and technology transition/ insertion. However, the TTO won't replace the need for Phillips Lab Project Managers to keep talking to potential customers and marketing their own technologies. Contact XPX for more information on IWSM and technology transition.

The Project Managers Job

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

II. DISCUSSION

The PL Project Manager is the person responsible for the management of a work-unit, be it a contract, an in-house investigation (analytical and/or experimental), or a consulting function. You, the Project Manager, must manage all aspects of assigned work-units -- cost, schedule and technical performance. You must always be in tune with the atmosphere surrounding the "beneficiaries" of your work-unit; the justification for the existence of your work-unit depends completely upon the value of your results or end product to the ultimate user.

Each Project Manager operates in a Section/Branch/Division chain of command. The Chiefs at each of these levels are responsible not only for managing the Project Managers, but also bear responsibility for effective and efficient work-unit management. Indeed, the uppermost responsibility of the "Chiefs" is the management of the on-going work-units. The Chief who does not have visibility into all assigned work-units and is not actively reviewing and gauging the work-unit's health is not doing his/her job.

Project Managers come to the Laboratory with particular technical training and competence in a specific field. To be a completely effective manager, each will also need to be proficient in other areas normally considered in the realm of the businessperson.

The Project Manager is a member of a team in the Laboratory. They are not acting alone as a Project Manager. A team effort is needed. The team is the Laboratory family, including the contracting officers in R&D Contracting. It's OK to ask for help. Valuable sources of information are available from Section, Branch, and Division Chiefs, and experienced Project Managers. Laboratory Staff offices can also be of particular value. The Comptroller is responsible for all financial management of Laboratory funds and the Job Order Cost Accounting System (JOCAS). The Program Integration Division (PL/XPP) is responsible for the PL management information system more commonly referred to as Frequent Analysis System Tracker (FAST) and Defense Technical Information Center (DTIC) submissions through FAST.

XPP also serves as the program control function for the Laboratory and integrates data from the XP 3-letters. Project Managers should become acquainted with their supporting XP 3-letter personnel at the earliest opportunity and work closely with them.

The 377 ABW/JAN is available to assist in navigating the laws and regulations which govern many of these activities.

XP 3-Letters

The term "XP 3-letters" applies specifically to XPD, XPG and XPS. These divisions are responsible for planning and programming activities within their respective technical areas (i.e., advanced weapons, geophysics, and space and missiles, respectively). They develop technical objectives and prepare formal documentation (e.g., POM, BES, PMD, etc.) for the technical directorates they support:

XPD supports LI and WS
XPG supports GP
XPS supports RK, SX, and VT

They also provide acquisition support to laboratory personnel as part of the Request for Proposal Support Organization (RFPSO).

Management of a Project (work-unit) will involve a cycle of planning, organizing, directing, controlling and communicating.

Planning is the selection of objectives and approaches. It requires an ability to predict and visualize an integrated program as the framework for decision making. Project Managers will be involved in the planning of not only their assigned contractual or in-house efforts, but also in the Laboratory's on-going technology planning process.

Organizing involves the coordination of people and resources so that their activities contribute to the accomplishment of the objectives. This involves determining which activities are required to achieve the objectives, how the activities may be arranged and divided, and also who will be assigned the responsibility for their performance.

Directing involves providing guidance and instruction to regulate and cause activities to happen in accordance with the prescribed plan.

Controlling is the process of determining if the actual performance is conforming with the requirement of the predetermined plan, and taking necessary steps to correct deviations.

Communicating provides a feedback mechanism. The flow should be upward, downward and lateral. Channels of communications should be open at all times for accurate, timely and useful information.

The assignment of the title "Project Manager" is done at Division level. The Division Chief or Director makes such an assignment only when he/she knows that the individual is reasonably familiar with the contents of the Project Manager's Handbook, and the individual has observed experienced Project Managers in action. These two requirements are intentionally stated in a manner that leaves a good deal of judgment and flexibility with the Division. Section Chiefs have a critical responsibility in training prospective Project Managers and being a mentor for new Project Managers. The terms Project Officer, Work-unit Manager and JON Managers are often used interchangeably and are synonymous with Project Manager.

Management of contracts and services performed by outside agencies require specialized experience. PL personnel who have obtained that type of experience are termed qualified project managers (QPMs). Before appointment as a QPM, the project manager normally serves a year of "apprenticeship" under a person who is a QPM, and during that year attends the project manager's course and various courses on contract management. Division chiefs appoint QPMs and may waive the apprenticeship period for well-qualified people. Division organization charts often reflect the QPM label.

Being a Project Manager is a fascinating and rewarding job. It is a complex and demanding job, but one of inestimable value to the United States Air Force and the Phillips Laboratory.

Planning Your Work. Schedule ahead your key events to ensure your availability. Schedule your leave and travel around these events. Some of the key events are:

--Conduct a Literature Search

--Establish a JON

--Establish your R&D Case File.

--Prepare an R&D Purchase Request package (for contract JONs).

--Prepare an In-House Project Plan (for in-house JONs).

--Participate in technical evaluations of proposals for R&D contracts.

--Participate in R&D contract negotiations.

--Conduct or participate in Technical meetings/ conferences.

--Prepare Final Technical Reports.

Work-Unit Planning

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Space and Missiles Tech Division
PL/XPS
(505) 846-6756; DSN 246-6756

Plans and Programs Directorate
Advanced Weapons Tech Division
PL/XPD
(505) 846-2251; DSN 246-2251

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

By following the steps in this section, the Project Manager will be able to effectively plan the objective, approach, schedules and a total cost estimate necessary to get management approval and establish a new work-unit or JON.

III. WHAT IS A WORK-UNIT?

AFI 61-203, The Work-Unit Information System, defines a work-unit as the smallest segment into which Research and Development (R&D) efforts are divided for local administration. **Each R&D work-unit has a specific objective, definite duration, and results in an end product** (i.e., a technical report or a final work-unit progress report). It is technically distinct in scope, objective, and duration from other research and technology efforts with which it may be aggregated for either financial, administrative, or contracting purposes. Work-units are identified by an eight digit code commonly referred to as a Job Order Number (JON) for tracking purposes in the Job Order Cost Accounting System (JOCAS). **The terms work-unit and JON are often used synonymously, and often the term "effort" may refer to a single work-unit or multiple work-units depending on the specific objective(s) of the effort.**

R&D work-units can be either a contractual or an in-house effort and are assigned to one of three Job Order Categories (JOC) in JOCAS.

Category 1, Contract Direction.

This category includes any R&D objective that is accomplished under a contract, a grant, or an outgoing funding transfer to another Government agency. Included in this category are all costs associated with monitoring and administering a contract, grant or outgoing funding document; procurement planning, preparation of the Statement of Work, specifications, military interdepartmental purchase requests (MIPRs), project orders and other procurement data; and all activities through final closeout of the effort.

Occasionally a contract will have multiple JONs associated with it, as in a Subtask Ordering contract. In this case, each subtask has a specific objective to be accomplished and therefore has its own JON. The policy is a JON is assigned to a single contract or subtask statement, but a contract can have many JONs that fund a contract.

All Category 1 JONs require a literature search, DTIC reporting and an R&D case file.

Category 2, In-House Research and Technology.

In-House implies that the technical objective is accomplished by our own government civilian and military personnel within the Phillips Laboratory facilities. In-House work-units are characterized as "benchwork" experimentation or original study designed to accomplish discrete scientific technical advancement. This includes all resources (labor, supplies, equipment, equipment maintenance, TDY) expended in planning, documentation, support, fabrication, test support, and evaluation efforts necessary to perform the in-house research.

Also included are costs of contracted engineering and technical services or equipment maintenance to support the in-house research. These contracts support the in-house research and therefore must not be a significant portion of the in-house effort. Examples include: the purchase of supplies and equipment, contracts for data analysis or test facility support, equipment installation, and efforts involving routine engineering.

All Category 2 JONs require a literature search, DTIC reporting and an R&D case file.

Category 3, In-House Research and Technology Support.

This category applies to work-units which are characterized as engineering assistance, consultation, evaluation, and support service provided to other organizations **(external to Phillips Laboratory)** regardless of whether or not the job is funded by that organization. Included in this category are planning studies, studies and engineering analysis; proposal evaluations, source selection and other procurement assistance (not related to a Category 1 JON); mission analysis for operational commands and higher headquarters critical design reviews; fabrication or repair shop support services; evaluation or in-house test for other organizations of contractor delivered equipment or hardware; trouble shooting operational equipment; DOD standardization program; patent reviews; independent research and development (IR&D) reviews; and any other technical assistance, consultation or support service provided for a specific customer of the laboratory.

For example, if the Army wants Phillips Lab to perform some technical evaluation or experiment for them. We must establish a JON to track the costs associated with their effort in order to bill them and collect reimbursement for our effort. As with all work-units, all costs associated with the performance of this effort will be charged to this JON.

Another example would be when we receive funding (say, a direct cite document) from an outside activity to provide contractual support for them (e.g., ARPA BAAs). In this instance PL is not the technical monitor for the effort being contracted, the customer is. We should establish a Category 3 JON to track our costs associated with providing this nontechnical support and collect reimbursement for our effort. This scenario would require up front planning and agreement and possibly a second funding document from the customer to pay the reimbursable costs.

Category 3 JONs are often established to support multiple work-units or other non-R&D activities within a Program Element (PE), Budget Program Activity (i.e., BPAC or project) or Task. Any costs of support that can not be identified specifically to an existing Category 1 or 2 JON could be included in a Category 3 JON. Typically, a BPAC Manager or an XP 3-letter PEP is responsible for a group of work-units within a BPAC and could charge their management and support costs to a Category 3 "BPAC level" JON. However, any time or support that can be directly related to a specific Category 1 or 2 JON must be budgeted and charged to that Category 1 or 2 JON and not the Category 3 JON.

Normally, category 3 JONs do not require a literature search or DTIC reporting if they

are for non-R&D type support only; however, studies and analysis efforts do require a literature search and DTIC reporting. In the example cited above where we were only providing contractual support and the customer is the technical monitor of the contracted effort, the customer is responsible for the literature search and DTIC reporting. If however, the customer assigns technical monitorship to PL, then this is no longer a Category 3 situation and a Category 1 JON must be established.

Category 3 JONs require an R&D case file so that progress can be tracked and reported to the customer and/or PL management. The R&D case file is also the best way of transferring the history of this BPAC/Task/activity on to a successor.

R&D vs. Memorandum Work-units

The above paragraphs addressed R&D work-units. In JOCAS these are known as direct JONs. There is a second type of JON called Memorandum JONs, which are assigned to miscellaneous accounts for management analysis and support of the laboratory. Memo JONs are sometimes referred to as "overhead" JONs. These JONs are readily identified because the first two digits of the eight digit JON begin with "99". Job Order Categories do not apply to Memorandum JONs.

The third digit also has specific significance. The "8" can be used for indirect costs, and "9" for overhead costs. A "0" is used for identifying civilian leave. For laboratories, the fourth digit will be "1" through "6." These codes are required for Laboratory Resources Report and are as follows:

9981 or 9991xxxx	Management and Supervision
9982 or 9992xxxx	Administration
9983 or 9993xxxx	Technical Support
9984 or 9994xxxx	Training
9985 or 9995xxxx	Leave and Excused Absences
9986 or 9996xxxx	Miscellaneous- Other

Job orders numbers used for civilian leave in JOCAS for annual, sick, and other leave will be job order numbers 99054XXX, 99055XXX, and 99056XXX, respectively. Only the leave used and recognized by the civilian pay system is to be charged to these job orders. A job order number with eight "9s" will not be used.

IV. PLANNING FOR THE EFFORT

Work-unit planning is an essential part of the Project Manager's duties. At this point, it is assumed the Project Manager has an R&D effort to perform and possibly even a funding level or budget to support it. These may have been set through discussions/ negotiations with the FTA or Thrust/ Subthrust manager, BPAC manager, Branch or Division Chief, etc. In some cases, the effort may have been requested by an outside customer wishing R&D support from Phillips Laboratory with either a funding level identified or the funding required for this support still to be determined and negotiated with the customer. In any event, the Project Manager must determine how many work-units (i.e., JONs) are required to accomplish this effort in the most efficient and effective manner.

PL requires that there be a separate JON for in-house work and for each contract or each subtask. There are several possible ways to determine the required JONs. For an ongoing effort with continuing work with the same objective it may be appropriate to use the same JON(s) as last year. For an ongoing effort with a new objective(s), JONs may be added to cover the new work-units. For a new effort, the following steps should lead to a minimum number of JONs while meeting PL requirements.

Step 1 - Break the Effort Into Specific Objectives

Determine the specific objectives necessary to accomplish the effort. Be able to describe the work in terms of the technical objective and the anticipated results (i.e., an end product, such as a piece of hardware or a technical report). These objectives will be required when establishing the JONs. The total effort may

require only a single objective or it may be broken into several objectives.

Step 2 - Request a Literature Search

Once the objectives have been determined there's no sense in "reinventing the wheel." Project Managers are required to perform literature searches during project planning to preclude duplication of effort and to ensure current awareness of similar or related efforts. The PL Library staff can assist in conducting the literature search. Since you do not have a JON assigned yet, your time and anyone else who assists you in this planning process should charge their time to a Memo JON established for Advanced Planning (e.g., 9991PLAN).

Step 3 - Determine the Best Approach to Accomplish Each Objective.

Determine how each objective can be accomplished, either in-house using Phillips Lab resources or by a contractor. This determination can be made either from past experience or by discussing the objective(s) with other Laboratory personnel or persons knowledgeable in this type of work.

You may decide that several objectives are capable of being done by one particular group (in-house or contractor). In this case, it is advisable to consider combining those objectives into a single all encompassing objective so that only one work-unit and one R&D case file is required.

Keep in mind that a work-unit (JON) can only have one contract number assigned to it. If you decide to perform an objective in-house, with minor assistance from a contractor (e.g., SETA), then the approach would be to establish an in-house work-unit. However, if several of the objectives are to be primarily performed by a contractor, and the rest performed in-house, then the approach would be to establish at least two JONs (one in-house and one contract).

Be prepared to document the objective and approach you have selected because they will be required when you establish the JON into FAST. Emphasis should be on the specific tests and equipment, theoretical work being conducted, and other factors which may tend to accelerate or delay the work.

Step 4 - Develop a Cost Estimate for Each Objective/Approach

Now that you have defined the objective and approach, you are well on your way to planning a work-unit. However, you must also estimate the length of time required to accomplish the objective and how much it will cost. Remember all work-units have a "definite duration." If the work-unit is envisioned to involve several fiscal years, then you will need to estimate the work-unit costs expected for each fiscal year. In essence, you need to develop a cost estimate.

In establishing your cost estimate, consider who will be working on your project. Will they be full-time or part-time? Don't forget time spent by various shops in the Lab, or other support from the Contracting Directorate, the Comptroller, Plans and Programs, and finally the Technical Reports Branch. All of these offices will want to charge their time to your JON if they provide you support.

If you plan to accomplish the work through a contract, PL/PKM can assist you in developing a cost estimate for the contract. Don't forget to include in the Lab costs (salaries) for preparing the Statement of Work (SOW), monitoring and administering the contract through to contract closeout. Again, the Technical Reports Branch will charge your JON when they review and finalize the contractor's final report prior to distribution to the Defense Technical Information Center (DTIC).

Other costs to be included in your estimate are for travel, supplies and materials, equipment maintenance and computer support, just to name a few. See the chapter on SPEND PLANS or contact your

supporting XP 3-letter or FM office for additional assistance.

Step 5 - Get Your Plan Approved by Management

Now that you've developed your objective, approach, schedules and a reasonable cost estimate for the life of the proposed effort, it's time to "sell it" to management. Your proposed work-unit is going to require the commitment of PL resources -- both manpower, money, and possibly even materials and machinery (test equipment).

You need to schedule an initial Technical Management Review (TMR) with your Directorate Chief. The TMR will provide an understanding of what you plan to do to accomplish the assigned R&D effort. The TMR will also provide for exchange of information with your Directorate's technical advisors and other staff members. Your presentation should include the following as a minimum:

-- A description of your objective and technical approach.

-- A statement on the results of your Literature Search.

-- A statement on the anticipated end product or result.

-- A statement on the results of your Environmental Impact Analysis/Safety Plan.

-- A schedule for the entire life of the proposed work-unit.

-- A cost estimate (all years) and a current year spend plan.

-- A description of any support, including funding, from others.

Upon successful completion of the presentation, you should receive the necessary guidance and/or approval needed to establish a JON.

Step 6 - Get Your JONs Established

Once you have been given the go ahead to establish a JON, you should contact your Directorate's supporting XP 3-letter office. The XP 3-letter will be able to collaborate on the amount of funding being provided to you and assist in assigning a JON and entering the necessary records into the FAST system to officially activate the JON.

Be prepared to provide the following information to the XP 3-letter to establish the JON:

-- BPAC, PMA or Agency (if outside $) funding the project

-- Amount authorized for the JON

-- Project Manager's Name & Office Symbol

-- Focused Technology Area (FTA) applicable to the project

-- Type of JON (i.e., contract or in-house)

Program Records

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Records Management Branch, PL/IMD
(505) 846-5081; DSN 246-5081

Operations Directorate
Technical Library, PL/SUL
(505) 846-4767; DSN 246-4767

Plans and Programs Directorate
Program Integration Division, PL/XPP
(505) 846-4329; DSN 246-4329

Edwards AFB:

Operations and Support Directorate
Technical Service Division, OL-AC PL/TS
(805) 275-5372; DSN 525-5372

Operations and Support Directorate
Information Management Branch, PL/IM
(805) 275-5122; DSN 525-5122

Hanscom AFB:

Operations and Support Directorate
Technical Library, OL-AA PL/TL
(617) 377-4895; DSN 478-4895

Operations and Support Directorate
Information Management, PL/IM
(617) 377-2979; DSN 478-2979

II. OVERVIEW

All projects and programs require some form of records. The type depends on the agency sponsoring the work and the category of R&D effort. The Air Force requires annual records on its projects and programs to support its budget and provide a permanent record of R&D activities. Likewise, support we provide to other agencies must be documented. The primary means of sharing the results of research is published technical reports (TRs), with associated drawings, etc., as appropriate, to enable customers to transition designs or technology (hardware or software) to users. The paragraphs below are intended to identify the various types of records associated with your project.

III. R&D CASE FILES (PL/IM)

R&D Case Files are vital--they preserve the complete case history and protect the government in legal obligations and financial rights. They must be protected against loss or destruction. As soon as you, the Project Manager, are assigned a particular R&D work effort, either contract or in-house, first contact your technical library and request a literature search; second, contact your safety office; and THEN call your records manager for an appointment. The records manager will give you (1) an R&D case file folder (a six-part folder); (2) an index for your case file which you place in Section A; (3) an R&D record book, if required; (4) detailed instructions on getting your case file added to the office file plan and obtaining file and disposition labels; (5) the number and date of current directives which contain detailed instructions and policy along with any other pertinent printed material, and where to obtain them; and (6) instructions on staging/retiring completed R&D case files.

Every R&D effort must be documented in an R&D case file. The R&D case file provides a complete case history of the R&D effort from initiation to completion. Ideally, a separate R&D case file should be maintained for each R&D JON (work-unit number). This makes maintaining the case file simpler. However, when this is not practicable because peculiarities of your R&D effort resulted in establishing multiple JONs--none of which is a separate entity by itself--then set-up one case file and reference the JONs applied against the effort as an attachment to the index.

For an R&D Subtask Ordering Contract, the Contracting Officers' Representative (COR) is responsible for maintaining the official R&D case file. Subtask officers will maintain any records that he/she feels are

necessary to complete the subtask. When the subtask closes, the COR will review those records with the subtask officer and incorporate any that are considered appropriate into the COR's R&D case file. The COR will keep a record of all subtask officers.

File all contractual documents in the R&D case file. The Directorate of Contracting keeps their contract files only six years after contract completion. The accepted technical proposal is a part of your R&D case file, but all other copies of technical proposals received are not a part of the case file and should be disposed of upon contract award. A final technical report is required for every R&D effort except when the deliverable is hardware. The case file cannot be staged/retired without one.

File material in the case file as it is generated/received and make sure it is dated. By so doing, you will have your material in the required chronological order. File only one copy of an item in the file--no duplicates and remove all cover sheets, unnecessary routing slips and paper clips before filing. File records that are only valuable when the effort is on-going (such as reference materials and budget exercises) in supplemental folders marked "nonretireable."

When any section of the file becomes too full (generally over 1/2 inch) start a supplemental folder for that section. Labeled index tabs may be inserted to separate different types of records within a section; or if you prefer, use supplemental folders subjectively. Remember, the file is to help you but it must be organized so that others can locate information filed when required.

There are people in your work area to help you. Overall responsibility for all the records in a particular office belongs to the chief of the office, but the Functional Area Records Manager (FARM) who is often the division secretary, and the records technician (usually the section, branch or division secretary) have specific responsibilities. Even though the Project Manager is responsible for making sure the R&D effort is technically and accurately documented in an R&D case file, the daily maintenance of R&D case files may be delegated.

IV. PROGRAM MANAGEMENT DIRECTIVES (PL/XPP)

A Program Management Directive (PMD) is the official HQ USAF management directive used to provide formal and detailed program direction to the implementing and participating commands and satisfy documentation requirements for 6.3 and 6.4 program elements. It is used during the entire acquisition cycle to state requirements and request studies as well as initiate, approve, change, transition, modify or terminate programs.

PMDs are issued by HQ USAF directly to the Program Executive Officer (PEO), the Designated Acquisition Commander (DAC), or the Technology Executive Officer (TEO) to provide direction for a program and to identify resources programmed to accomplish the program.

A PMD does not provide authority to commit, obligate or expend funds except as authorized in the appropriate Program Authorization (PA) and Budget Authorization (BA).

PMDs do not direct tentative budget positions such as those contained in the Program Objective Memorandum (POM) or Budget Estimate Submission (BES).

PMDs are usually updated within 45 days after the President's Budget (PB) is submitted to Congress if the new PB changes the program from the prior PB.

The program manager's (PM) specific responsibility, authority, and accountability for attaining program objectives is derived from the PMD. PEPs assist the PMs to formulate program direction and changes with the PEM during preparation of the draft PMD.

A Ballistic Missile Defense (BMD) Program Management Agreement (PMA) is a bilateral document between the Director of the BMD

Office (BMDO), and the Secretary of the Air Force, Assistant Secretary for Acquisition (SAF/AQ) with the same PMD authority for Air Force organizations supporting a BMD program. PMDs are not required for BMD tasks covered by current PMAs.

V. RDT&E DESCRIPTIVE SUMMARIES (PL/XPP)

Program Element Descriptive Summaries are one of the single most important program/funding documents and yet one of the least understood. They become PL's contract with Congress to spend money and any deviation requires justification for the change.

Descriptive Summaries (DSs) support the BES submitted to OSD and justify the Air Force RDT&E funds requirement in the PB to the Congress. The DSs are initially prepared for the OSD Fall BES review using the Program Element Summary Sheet (PESS) developed during the POM process. The DSs are then updated to reflect the funding and program changes which occurred in the BES review and support the RDT&E requests in the PB to Congress. Every program with RDT&E funding (except special access programs) in either or both of the budget years must be supported by a RDT&E Descriptive Summary. The Descriptive Summary is also referred to as Exhibit PB-33B.

Program Element Planners (PEPs)

Based on instructions issued by SAF/AQX, Descriptive Summaries are prepared by the cognizant HQ USAF Program Element Monitors (PEMs) (SAF/AQT is responsible for all Science and Technology programs). SAF/AQT PEMs author the DSs for their PEs with input from PL/XP Program Element Planners (PEPs) (i.e., the XP-3 letters).

-- The USAF PEM is THE Air Force's overall focal point for his or her program(s) and must be able to address any issue concerning that program(s), e.g. planning, programming, costing, budgeting, operations, and joint efforts. **The PEM is the primary program advocate**. PEMs must be kept knowledgeable and alert to be able to articulate their program(s) in a constantly changing environment.

-- The XP PEPs are the primary PL point of contact for the USAF PEM. The PEP must be completely familiar with every aspect of his/her program(s) in order to quickly and accurately respond to the USAF PEM's request for information. This is often crucial to the survival of a program. USAF PEMs are frequently required by a Congressional Staffer to provide information within a very short time frame (usually hours).

-- PEPs regularly meet with the directors, project managers and financial managers to determine how the program is progressing, both programmatically and financially. They must meet regularly with those who perform the work in their program(s). They must be able to consolidate the diversity of information from various sources and levels within the laboratory into a concise format for both laboratory management and the PEM.

-- PEPs are also an integral part of the Corporate Financial Management Board (CFMB). Their knowledge of the program provides crucial information to the PL decision makers when unfunded requirements are identified and their program is the potential source of funds or the requirement.

-- PEPs have the authority to move funding from one project (BPAC) to another within their PE. These changes must be communicated to the PEM in a timely fashion along with the supporting justification.

Information gained from Congressional staffers indicate that a great deal of emphasis is placed upon the planned program section. Remember, published DSs are considered our contracts with Congress specifying how we plan to spend the funding Congress appropriates. Planned program sections for each FY are

compared with the previous PB submittal to identify deviations from plans. Justification should be quantified whenever possible for the budget year planned program section, since this data justifies and defends your request for funding.

Descriptive Summary Formats

There are three formats used for Descriptive Summaries. Use of one versus another is dependent on the type of program and the amount of funding involved. A brief description of each format follows.

-- Format 1 is used for program elements with multiple projects; PEs with single projects having less than $10 million funding in both budget years (BYs); and 6.1 (Research), 6.2 (Exploratory Development), and 6.5 (Management and Support) PEs regardless of dollars.

-- Format 2 is used for projects which have greater than $10 million in funding for either BY and do not require a Service Acquisition Executive or higher authority milestone decision. If the project is one of several in a PE which must use a Format 2, the Format 2s are assembled in project order and a Format 1 is used as a summary of the PE and is presented before the Format 2s.

-- Format 3 is used for projects which require a Service Acquisition Executive or higher authority milestone decision. Format 2 is not required for these projects. Multiple projects in the PE requiring a Format 3 are assembled in project order and are preceded by a Format 1 providing a summary of the PE.

-- Table 1 provides the type of information required for each format. Specific instructions for preparation can be obtained by contacting your respective XP 3-letter PEP.

Descriptive Summaries are complemented by PMDs. PMDs are issued by HQ USAF to define a program; provide direction and guidance; designate responsibilities; and state review and approval requirements, program thresholds, authority limitations, and other requirements. PMDs direct WHAT is to be done by WHOM--NOT HOW! A PMD does not provide authority to commit, obligate, or expend funds.

VI. LITERATURE SEARCH REQUESTS (PL/SUL)

Requirement

Before receiving a Job Order Number (JON) for a new project, a survey of the scientific and technical literature and DOD ongoing R&D programs is to be accomplished for the individual project. This applies to projects pushing the state-of-art and in-house research also. Duplicate efforts need to be curtailed unless there is a specific reason that requires validation of earlier findings. If your project is covered by an existing current awareness survey so that your office is automatically informed of new work, submit a letter stating that no existing technical reports, work in progress, foreign intelligence, periodical articles, etc. duplicate this work effort.

Steps

Set up an appointment with your local reference librarian.

Please supply an existing R&D JON or use the Advanced Planning JON (i.e., 9991PLAN) for charging hours. Allow approximately two weeks lead time for your survey; it can take up to two months depending on what information is required. Access to the Defense Technical Information Center (DTIC) data bases is available at all locations in unclassified or classified data bases. A search of the DTIC system for a PR package will automatically include the technical report data base (completed work), work-unit data base (ongoing work -- your work will be reported to DTIC through FAST), and the Independent Research & Development data base (proprietary information on individual contractor work). Each library provides

Table 1. Descriptive Summary Formats for Program Element Documentation

SECTION	FORMAT 1	FORMAT 2	FORMAT 3
A	Resources	Resources	Schedule/Budget Information
B	Brief Description of PE	Brief Description of Mission Requirement and System Capabilities	Brief Description of Mission Requirement and System Capabilities
C	Justification* for Projects less than $10M in both FY BY1 & BY2	Program Accomplishments and Plans	Program Accomplishments and Plans
D	N/A	Work Performed By	Work Performed By
E	N/A	Comparison with prior FY Descriptive Summary (Cost, Schedule and Technical changes)	Comparison with prior FY Descriptive Summary (Cost, Schedule and Technical changes)
F	N/A	Program Documentation	Program Documentation
G	N/A	Related Activities	Related Activities
H	N/A	Other Appropriations Funds	Other Appropriations Funds
I	N/A	International Cooperative Agreements	International Cooperative Agreements
J	N/A	Milestone Schedule	Test & Evaluation Data

* The justification includes Project Number and Title, a short description of the requirement or project objectives and data similar to that provided in Sections D through I of Formats 2 and 3.

access to other interactive computer search services (NASA/RECON, Dialog, BRS, STN, etc.) based upon your search topic. Record the date of the literature search in FAST. A successful search depends upon your contributions. Your presence during a search is helpful to the reference librarian as the terminology may vary from one data base to another.

Set up an appointment with your local Intelligence Office (PL/IN). The Intelligence Office will access their data bases for foreign technological developments. This set of data bases complements the data bases utilized in the library.

Projects that are expected to continue over multiple years should establish an ongoing profile for each project. Have your reference librarian establish your ongoing requirements for information to keep you abreast of newly published items in your field of interest.

Documentation. Include a copy of your completed literature search request in your PR package and record the date in the FAST (Maintain DTIC screen). An example of the AFMC Form 14, Request for Computer-Aided Literature Search, is provided in Figure 1.

Restrictions. Stay-in-School employees cannot conduct your search for you. This is the Project Manager's job.
The search must have been completed within the last 180 days prior to establishing a JON.

Retention. The printouts or bibliographies produced as a result of the literature search are to be kept in your R&D case file.

VII. SCIENTIFIC AND TECHNICAL INFORMATION (STINFO) PROGRAM (PL/SUL)

The AF STINFO program provides for the interchange of scientific and technical information within and among AF organizations, DOD components, Federal agencies, government contractors, and the national and international scientific and technical community. The responsibilities for the program are handled in a distributed fashion rather than as a centralized office. SUL is the OPR for the STINFO program at Kirtland and there are locally appointed STINFO managers for each operating location.

STINFO personnel are also able to provide assistance on properly marking documents to meet Export Control and Distribution Statement requirements. All Contract Data Requirements Lists (CDRLs) that have technical data as deliverable must be marked so that the contractors are requested to properly mark and handle all information. It is insufficient to mark only the final technical report. All technical data must be marked IAW AFR 83-3 and MIL-STD-806. This includes engineering drawings, reports, diskettes, videos, etc.

VIII. DEFENSE TECHNICAL INFORMATION CENTER (DTIC) (PL/XPP)

DOD 3200.12-M-1 has directed that all DOD organizations submit work-unit summaries (JONs) that accomplish Research & Development to DTIC located at Cameron Station, VA. A literature search is required before work can be accomplished on the JON; this will help avoid wasting resources by duplicating research on past, current, and developing technology. The literature search also includes multiple commercial and governmental databases (including DTIC data bases) that contain information on current RDT&E projects, as well as completed efforts.

After the project manager has completed the literature search and entered his JON in the PL Frequent Analysis System Tracker (FAST), PL reports to DTIC. The entry into the FAST also establishes the JON in the Job Order Cost Accounting System (JOCAS).

Since contractors and the DOD use the DTIC data bank for internal management and for such special purposes as responses to Congressional queries, it is important that we keep DTIC current and accurate.

REQUEST FOR COMPUTER-AIDED LITERATURE SEARCH

DATE REQUESTED: 4 Oct 93

NAME	OFFICE SYMBOL	PHONE NUMBER	DATE REQUIRED
Jane Q. Public	PL/SS	846-4767	ASAP

1. STATE YOUR QUESTION *(Give a narrative description of the problem to be searched, be specific.)*

Data concerning sensors technologies (both active and passive). Supporting the examination of active and passive sensor/communications technologies for dual use, defense conversion, and technology reinvestment. Analyses which translate surveillance system and interceptor homing system performance requirements for development of sensor subsystems. Analyses for interactions between proposed UV (ultraviolet) sensor constellations and strategic, theater, and tactical threats. Conducting infrared focal plane array characterization tests in clear and radiation environments.

JOB ORDER NUMBER: 9993KIRT

PROJECT TITLE *(Unclassified)*: Space and Missiles Manpower Support Contract

☐ SUBTASK ☐ IN HOUSE ☒ PR PACKAGE

RESPONSIBLE PROJECT OFFICER: Lt. Jane Q. Public

CLEARANCE LEVEL *(Check applicable box(es))*

☒ SECRET ☐ RESTRICTED DATA ☐ CNWDI ☒ UNCLASSIFIED

2. KEY WORDS IN CONCEPT *(List subject terms, synonyms, closely related phrases, and any terms which best describe the problem to be searched.)*

Active and Passive Sensor technologies as they apply to the following:
Dual Use
Defense Conversion
Surveillance Systems
Interceptor Homing Systems
Analyzing Hybrid Test Measurements
Development and operation of infrared focal plane arrays
UV sensor constellations AND strategic, theater, and tactical threats

3. *TIME FRAME (Indicate time span to be covered.)*: 1988 to present

4. FORMAT DESIRED: ☐ TECHNICAL REPORT ☐ JOURNAL ARTICLES ☒ ANY FORM

SIGNATURE OF REQUESTER: Jane Q. Public

FOR USE OF TECHNICAL INFORMATION CENTER

DATA BASES SEARCHED

DTIC --Tech. Reports; Work Unit; Independent Research & Development (IR&D)
NASA
DIALOG --NTIS; INSPEC; EI Compendex Plus; SPIN; Conference Papers; Energy Science, etc.

SEARCHER'S INITIALS	DATE OF SEARCH
HF	5 OCT 93

AFMC FORM 14, MAR 93 REPLACES AFSC FORM 569, MAY 77 WHICH IS OBSOLETE.

(PL/SUL Overprint, June 93)

Figure 1. Request for Computer-Aided Literature Search

Technical Reports

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Technical Reports Branch, PL/SUR
(505) 846-2785; DSN 246-2785

Public Affairs Office, PL/PA
(505) 846-1911; DSN 246-1911

Edwards AFB:

Operations and Support Directorate
Technical Services Division, PL/TSR
(805) 275-5014; DSN 525-5014

Public Affairs Office, PL/PA
(805) 275-5465; DSN 525-5465

Hanscom AFB:

Operations and Support Directorate
Technical Publications Editor, PL/TSB
(617) 377-4554; DSN 478-4554

History & Public Affairs Office, PL/HO
(617) 377-3643; DSN 478-3643

II. OVERVIEW

The only physical evidence that a project ever took place will be the written report. Others in the field may also be interested in the work you have accomplished. In fact, they may have thought of approaching the problem just as you have done. The report will keep them from "reinventing the wheel."

III. WHEN THE PROJECT BEGINS

When a contract is initiated, or an in-house project is begun, project managers should plan a schedule of reports due (deliverables), familiarize themselves with the standards for Phillips Laboratory reports, and consult with their local Technical Reports Branch point of contact.

PL Pamphlet 83-1, Technical Report Preparation Handbook, contains detailed guidelines for report preparation. All contractor-prepared final or interim technical reports will require compliance with this pamphlet and be reviewed for compliance by the reviewing Technical Reports Branch during the draft document stage. Broad variations are possible within the guidelines. Reports may be 5 pages long or 5000. Some may have no illustrations; others may have minimal text and many illustrations.

The MLA Style Manual, published by the Modern Language Association, says this about technical reporting:

> *"To meet the conditions of such [government] funding, researchers often have to file reports on the work they have done. The research report must usually follow a prescribed outline and must often describe the precise means by which the research was carried out .... Research reports, like all writing, should attempt to communicate significant information to educated readers."*

Generally, a final report should cover the technical procedures followed during a project -- including design criteria when applicable; all pertinent observations; all problems encountered; positive and negative results; and all processes developed for and during the procedure.

The editing process, a precise, "picky" operation, is not easy for author, project manager, or editor. The MLA Style Manual says:

> *"A copy editor's mission, then, ranges over the gamut of publishing responsibilities, from helping the author communicate effectively and providing the "embellishments" the publisher wishes for the manuscript to protecting the author from legal complications . . . .*

One cause of frequent misunderstanding is the imposition of "house style" on manuscripts ....

No matter how inane, naive, or irrelevant a copy editor's question may seem, an author should attempt to answer all queries . . . ."

IV. WHEN THE PROJECT IS COMPLETED

A project, either contract or in-house, is not complete nor may a DD 250 be signed until the results have been documented and distributed to appropriate activities. Every Air Force-funded project must generate at least one report. There is a legal time limit that must be met for a report; Figure 1 provides a general technical report timeline.

The drafts of all reports and/or articles resulting from all projects, studies, and conferences sponsored by the Phillips Laboratory are submitted for editing and, with the exception of journal articles, formatting and composition. Table 1 provides a summary of reports processed by the Technical Reports branches.

An edited draft, technically verified by the project manager, is the first product of the publication process. The process is far from complete -- the camera-ready copy (CRC) must be prepared and printing and distribution accomplished -- but, at this point, the project manager has an idea of how the published report will look. The CRC is prepared by the contractor for contracted projects and by the Technical Reports Branch for in-house projects. At Hanscom AFB, PL/TSB uses compositing contractors for in-house projects.

Table 1. Types of Reports Processed by the Phillips Laboratory.

Technical Reports	Formal reports of project results, formatted strictly according to Phillips Laboratory standards.
Technical Notes and Memorandum	Documents recording partial or interim results.
Journal Articles	Reprints (usually) of articles about Phillips Laboratory work that appear in scientific journals.
Conference Proceedings	A compilation of presentations, lectures, or papers given at meetings, symposiums, conferences, or conventions sponsored by the Phillips Laboratory.
User Guides and Handbooks	Documentation of processes, codes in particular, developed by the Phillips Laboratory or its contractors.
Special Reports	Documents directed toward a specific user.
Technical Paper	Longer version of a technical memorandum.
Progress or Interim Reports	Reports relating to intermediate results during complex efforts.

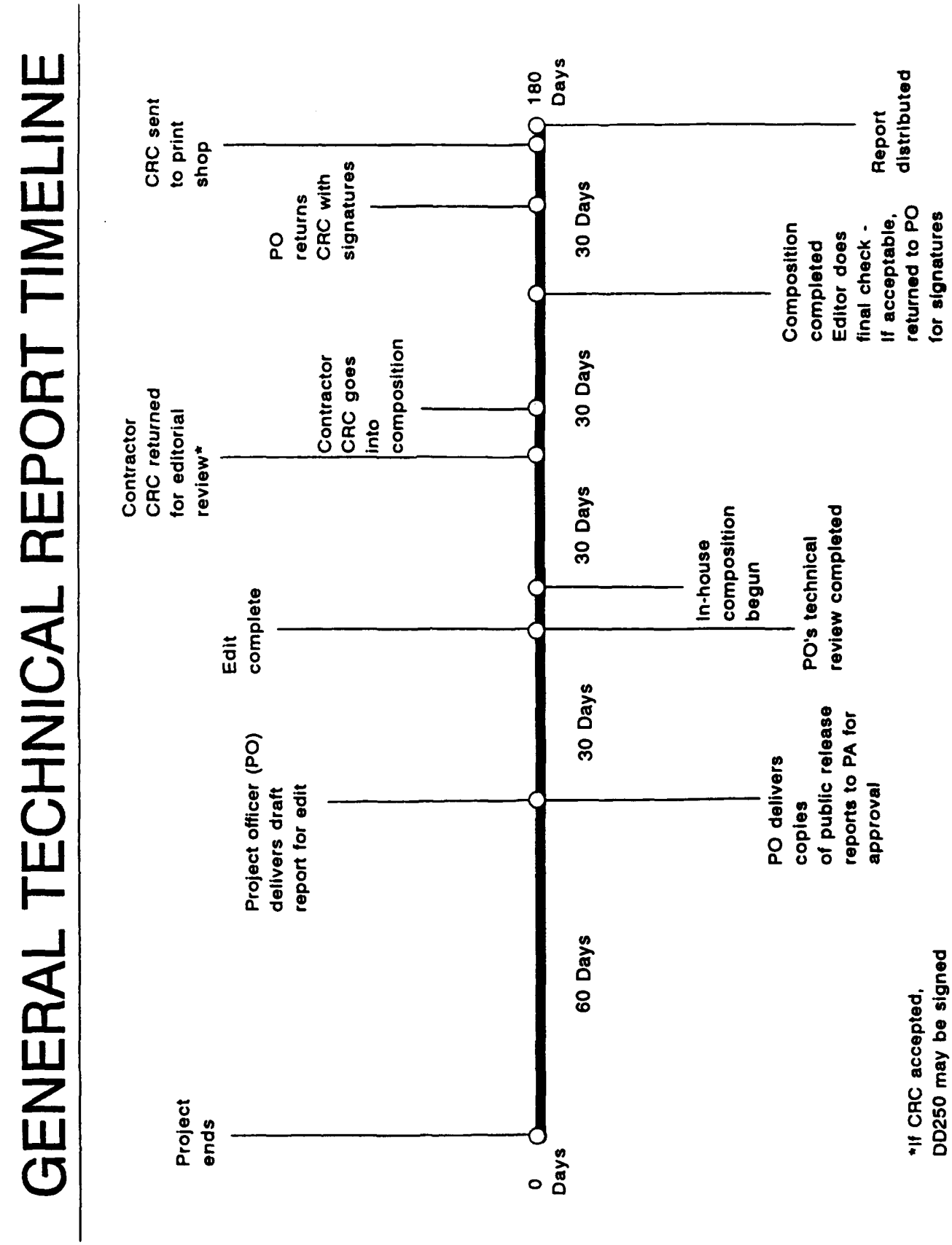

Figure 1. General Technical Report Timeline

V. PROFESSIONAL JOURNAL ARTICLES

Articles to be published in professional journals will be prepared in the format prescribed by the journal. The Technical Reports Branch will help with editing. In-house work reported in a journal article is not repeated in a formal technical report. Submit five copies of the printed journal article to the Technical Reports Branch for mandatory distribution. When the manuscript is submitted to the publisher, the publisher should be informed that the material was either prepared by a government employee or for the government under contract. If the work was prepared by a government employee, the best way to do this is to include the following statement in the manuscript:

> *"This is the work of a U.S. Government employee and may not be copyrighted (17 U.S.C. 105). No copyright notice may be placed on this work."*

The publisher must include this statement with the article or chapter when it is published. Users of the publication will be allowed to freely reproduce the article or portions of it. In the case of contractor created works, a case by case review will have to be made to determine if a license has been obtained under contract, prior to public disclosure.

VI. PROJECT MANAGER RESPONSIBILITIES

Submit the project report for publication. The report must be published and distributed within 180 days after the work is completed.

Review the edited report for technical accuracy.

Implement the preparation of camera-ready copy (for contractor reports).

Meet suspenses promptly and answer all editorial questions.

Select the proper distribution statement.

Provide required markings for classified documents.

Distribution Statement

Choosing the distribution statement requires the project manager's careful attention. The choice must be based upon the content of the report and in accordance with MIL-STD-1806, Marking Technical Data Prepared By Or For The Department of Defense. All data will be marked with the appropriate distribution statement including draft/final technical reports. The project manager must also provide a distribution list naming specific agencies and individuals who may have information. There is, in addition, a mandatory distribution list which provides copies of all reports to specified government agencies including the Defense Technical Information Center (DTIC).

Public Affairs Approval

The project manager is responsible for submitting the report and seeing it through the publication and distribution process. If a project manager wants unlimited distribution of his/her report, such as to members of the general public (typically designated as "Distribution Statement A"), that report must be submitted to the cognizant Public Affairs Office for approval through their security and policy review process. Since procedures vary slightly at Kirtland, Hanscom and Edwards, project managers should contact their local PL Public Affairs Office for the specifics at their location. Be advised, a minimum of 30 work days are required for this review. Technical reports are not the only material that needs to go through the security and policy review process. Any information intended for public release -- papers for conferences and journals, items for the Commerce Business Daily, and articles for newspapers for example -- must also be reviewed and approved prior to release.

Final Signatures

The final responsibility of the project

manager is to have the following sign the final technical report:

Project manager
Branch or division chief
Director

Once signatures are obtained, the project manager must return the report to the Technical Reports Branch and they will send it to the printer.

Spend Plans

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division, PL/XPP
(505) 846-4329; DSN 246-4329

Plans and Programs Directorate
Advanced Weapons Tech. Div., PL/XPD
(505) 846-2251; DSN 246-2251

Plans and Programs Directorate
Space and Missiles Tech Div., PL/XPS
(505) 846-6756; DSN 246-6756

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

Spend Plans form the basis for good business management practice at PL. Once a project manager receives funding (or becomes aware of how much will be received), the spend plan becomes a conscious effort to identify when, where and how those funds will be utilized.

Spend Plans provide PL management insight into the project's progress, since actual obligations can be compared to the forecast. This can provide management early indication of possible problems with the project and allow for early redistribution of funds if necessary.

Project Managers are responsible for inputting and ensuring their spend plans are current in the Frequent Analysis System Tracker (FAST). XP 3-letters approve the spend plans to ensure consistency with the budget allocation and objectives for the project. XP 3-letters are also responsible for tracking actual obligations against the plan and alerting management to any significant deviations.

FM processes funding transactions (i.e., outgoing funding documents, AFMC Forms 36, TDY orders, etc.). FM will not process any document that does not agree with the FAST spend plan.

Project Managers should make every effort to obligate their funds in a timely manner consistent with their spend plan. Poor execution of your funding could be justification to reallocate your unobligated funds to cover some other PL requirements.

This section is meant to assist the project manager in the preparation of project spend plans. Instructions are provided to assist in estimating the cost of labor, both civilian and military, as well as, civilian and military indirect and overhead costs.

Hourly pay rate tables for civilian and military members are available from PL/FM. These rates are usually updated for cost-of-living adjustments (COLA) in the January time frame of each fiscal year.

III. PL REIMBURSEMENT POLICY

In the laboratory environment, each project is required to pay specific costs

REIMBURSEMENT CODE CHART

		CUSTOMER GROUPS						
		1	2		3	4	5	6
		RESEARCH 6.1 Example: AFOSR (Except. 61101F)	WITHIN LAB 6.2	6.3	OTHER AF FUNDS (e.g, AFMC)	NON-AF OTHER DOD (e.g., BMDO)	NON-DOD (DOE, NASA)	NON-USG Commercial Users
JOCAS Reimb. Code >>		**(BF)**	**(BA)**	**(BB)**	**(BB)**	**(BF)**	**(BC)**	**(FR)**
COST CATEGORY	**SMA**							
DIRECT LABOR- MILITARY	**P**	NO	NO	NO	NO	NO	YES	YES
DIRECT LABOR - CIV. Reg time	**CV**	YES	NO	YES	YES	YES	YES	YES
DIRECT LABOR - CIV. Overtime	**CV**	YES	YES	YES	YES	YES	YES	YES
OTHER DIRECT COSTS	**S,T,Y, CS,CZ**	YES	YES	YES	YES	YES	YES	YES
INDIRECT/OVERHEAD - MIL	**P**	NO	NO	NO	NO	NO	YES	YES
INDIRECT/OVERHEAD - CIV	**CV**	YES	NO	NO	NO	YES	YES	YES
USER CHARGES (per AFR 177-8)	**M**	NO	NO	NO	NO	NO	NO	YES

Notes:

1. Column 3: Applies to other laboratories (e.g., WL, RL, and AL) and other AF MAJCOM funds.
2. Column 4: Applies to the ARMY, NAVY, and other services.
3. Column 5: Military labor is not accelerated (Use JOCAS standard rates).
4. Column 6: Military labor must be accelerated (Use JOCAS standard rates plus factors prescribed in AFM 177-101; Contact PL/FM).
5. Column 2: Free Market model effective beginning in FY95. JOCAS Reimb. Codes change to BF.
   Shaded boxes identify those cost categories that will change from NO to YES under the Free Market model.

Figure 1. Lab Reimbursement Code Chart

related to conducting the project. AFMCR 172-8, Uniform Reimbursement and Pricing Policy, prescribes the cost categories payable by each customer group. Figure 1 provides a chart depicting this cost category/customer relationship. It also identifies the Job Order Cost Accounting System (JOCAS) reimbursement codes applicable to each customer group and the particular Subject Matter Area (SMA) code that pertains to each cost category. Note, that in most cases, DIRECT LABOR - CIV and OTHER DIRECT COSTS are always paid (reimbursed) by the project.

Reimbursable costs in this context mean that the project pays the costs with project funds (either directly or through the JOCAS reimbursement process).

Due to the nature of the Laboratory's workload and the fact that employees can charge their time to many projects (and possibly many different customers) over the course of a pay period, all civilian salaries are initially paid out of the "Laboratory's Operating Budget", often referred to as the "06 account." Actual labor hours worked for each project (i.e., JON) are reported through the JOCAS Manhour Accounting system. These hours are translated by JOCAS into a dollar amount and appear as an expense under the reimbursable cost portion of the monthly "Job Order Cost by Job Order Report". JOCAS completes the reimbursement process by ensuring that the project (customer) is charged for this cost and the Laboratory 06 account is reimbursed.

IV. FREE MARKET MODEL

Beginning in FY 1995, the three Exploratory Development PEs at Phillips Laboratory (PE 62101F, Geophysics; PE 62302F, Rocket Propulsion and Astronautics Technology; and PE 62601F, Advanced Weapons) will be combined into one PE (62601F) and the funds will be distributed into five technology projects or BPACs and the Laboratory Operations 06XX accounts will be replaced with an "06 type" carrier account.

Since the 06XX accounts are used to fund basically the overhead functions of the laboratory, the Commander has approved the implementation of a "Free Market" model for use when the 06XX funds disappear.

Basically, the Free Market model will put all PL projects on the same reimbursement plan as far as paying their share of the indirect and overhead costs required to operate the laboratory. Prior to the beginning of each fiscal year, the Corporate Financial Management Board (CFMB) will meet to determine and validate the total indirect and overhead budget requirements for the upcoming year. The CFMB will allocate overhead budgets for each directorate to manage.

Indirect and overhead rates are applied to each direct labor hour charged to direct mission JONs. Based on the total CFMB approved indirect/overhead budget, the Comptroller and the Plans and Programs Directorate will develop direct labor targets and reimbursements for each Directorate. Periodically the CFMB will review the status of actuals compared to these targets and make adjustments accordingly. This could mean either raising or lowering the current rates in effect, or decreasing or increasing the indirect/overhead budget allocation.

From a JOCAS standpoint, reimbursement codes "BA" and "BB" will no longer be used for our PL projects (see Figure 1). At a minimum, all projects will be coded "BF" which means the project will reimburse all direct civilian labor (both regular and overtime hours), all non-military indirect/overhead costs, and all other direct costs. Use Figure 3, JON Labor Estimate Worksheet, to calculate your projects anticipated labor and overhead costs. Contact your local FM office for the current JOCAS rates for your location.

V. SPEND PLAN DEVELOPMENT

Introduction

A Spend Plan is really a monthly forecast of when funds need to be obligated to ensure proper execution of the project. A separate spend plan is required for each funding

Figure 2. Sample Spend Plan

PROGRAM NAME _____ JON _____

JON TITLE _____

PE _____

BPAC _____ PROJECT MANAGER _____

OFFICE SYMBOL _____

CONTRACT NUMBER _____ PHONE NO. _____

FTA _____

FY__ BUDGET _____ START - END DATES _____

SMA	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
CC													
CS													
CV													
CZ													
TOTAL													

SMA DESCRIPTIONS

CC COMPUTATIONAL SERVICES Provided by PL/SC or CSC (i.e., contractor) support.

CS MISCELLANEOUS CONTRACTUAL SERVICES Through PL or Base activities (including bench stock, CEPS, LMCA, VIMS, GOCESS), FAB Shop support, all credit card purchases, Imprest Funds, All UTECH services.

CV CIVILIAN PAY for all projects except BA reimbursement codes; plus overtime for BA; plus Ind/Ovhd - Civ if applicable.

P MILITARY PAY for all projects with the following reimbursement codes: BC and FR; plus Ind/Ovhd - Mil if applicable.

CZ SUPPLIES & MATERIAL Includes Tool Issue, Fuels & Propellant purchases, and SPC items.

S MISC. CONTRACTUAL SERVICES Includes AF Forms 9, Project Orders, AF Forms 616, Propellant, Project training via DD Form 1556; In-house MIPRs.

T TRAVEL Includes AF Forms 616 for travel authorizations,.

Y R&D CONTRACTS Includes contract MIPRs, AF Forms 616, Procurement Directives (AF Form 830) and Purchase Requests (Form 36), support contracts (e.g., SETA, OSS, TSS, Basic Research).

M REIMBURSABLE ADDITIVE COSTS for all projects with an FR reimbursement code (Contact PL/FM for details)

source within the project (JON or work-unit). A sample spend plan is provided in Figure 2.

At this point, it is assumed the Project Manager has obtained JONs for each of the work-units approved and has a budget for each. Now the Project Manager must develop a spend plan for each JON, which will be a primary input to the FAST Financial Management module. This means:

--allocating the dollars to the SMAs where they will be used;

--estimating how much of the money will be obligated each month for each SMA; and

--filling out the spend plan which will later be transferred to the FAST system. The rest of this section will be devoted to these procedures in more detail.

Allocating Funds to SMAs and Estimating the Obligation Month

Table 1 is a sample funds planning chart that a Project Manager might use for organizing the data needed to prepare a spend plan. The first thing the Project Manager should do is make a list of items that funds will be spent on, the cost of the item and the month that he/she plans to initiate action to spend the money (or purchase the item). This can be done as soon as the project budget is known and allows for completion of the first three columns of Table 1. Next the Project Manager determines which SMA each required item falls within.

The SMA represents a grouping of accounting personnel who process and post similar types of transactions into the local accounting system. Table 2 lists the most frequently used SMAs and examples of the types of transactions that would fall under each. The SMAs are divided into 6 general areas; Salaries, Computational Services, Travel, R&D Contracts, Supplies and Services, and Transfers to other agencies. The table also lists some of the Elements of Expense Investment Code (EEICs) that typically go with the SMAs. EEICs become a part of the fund cite.

Having determined the SMA, the Project Manager needs to determine the method of purchase (e.g., AF Form 9, bench stock, travel orders) and what delay (if any) there is between the initiation of the action and when the money is actually obligated. The anticipated delay must be considered to obtain the expected obligation month. This also provides the information necessary to complete the last four columns of Table 1.

VI. CALCULATING A COST ESTIMATE FOR LABOR

Salaries - SMAs CV and P

Labor costs are divided into two SMAs, CV for civilian and P for military. To facilitate your understanding of how to estimate these costs, see Figure 3 for a JON Labor Estimate worksheet.

Before filling out the worksheet the Project Manager should have some idea of who will be charging labor to the effort. Also, the project manager should know which reimbursement code (Figure 1) is applicable. However, the worksheet gives some general guidance on what sources of money must pay the salaries. Don't overlook the possibility of labor charges from one or more of the following support offices supporting your effort, such as:

Weld Shop	Machine Shop
Chem Lab	Electric Shop
Safety	Bioenvironmental
Tech Library	Technical Reports
Budget Analyst	Personnel
Security	Intelligence
Information Mgmt	Computational Serv.

Sections A, B, C and D of the worksheet, cover the various cost elements associated with labor. JOCAS defines a direct man-year as being 1728 hours. While a full year may equate to 2088 hours, approximately 17% of this time is taken up in annual, sick and administrative leaves. JOCAS

Table 1. Sample Funds Planning Chart

ITEM TO BE PURCHASED	COST ($K)	INITIATE PURCHASE MONTH	SMA	PURCHASE METHOD	DELAY BEFORE OBLIGATE.	OBLIGATE. MONTH
Oscilloscope	45.5	Dec	S	Form 9	ask FM	?
Liquid Nitrogen	3.0	Nov	CS	Bench Stock	none	at spend plan approval
Liquid Nitrogen	1.0	Jan	CS	Bench stock	none	at spend plan approval
Salaries (see separate worksheet for details)	100.0					
Travel	10.0	Oct	T	Orders	none	Oct
Travel	3.0	all but Oct	T	Orders	none	all but Oct
Cray computer time	5.0	each month	CC	spend plan approval	none	at spend plan approval

Table 2. Subject Matter Areas (SMAs)

SMA	TYPICAL EEICs	TYPE OF TRANSACTION
CC		Computational services provided by PL/SC (Solely for FAST). At Edwards, this includes all CSC support.
CS	501, 568, 569, 582 592, 603, 619	Charges through PL JOCAS (includes bench stock, CEPS, LMCA, VIMS, GOCESS, fabrication shop, credit card, imprest funds, and maintenance). At Edwards, this includes all UTECH services.
CV	391, 392, 393, 999	Civilian pay and benefits, overtime and indirect/overhead charges
CZ	605, 609, 627, 628, 641	Supplies and material includes tool issue and SPC items (e.g., base service store)
P	201	Military pay (for non-DOD customers only)
S	140, 462, 473, 501, 529, 53X, 553, 56X, 582, 592, 59260, 619, 63X	Direct charges using AF Forms 9 and AF Forms 616; Project orders and in-house MIPRs.
T	405, 406, 407, 408, 409	Travel; includes AF Form 616s for travel authorizations.
Y	588	R&D contracts; Contract MIPRs, AF Form 616s and Procurement Directives (PD)
M	592	Miscellaneous (Reimbursement Additive Costs); Contact PL/FM for details.

makes up for this difference by applying a Civilian Benefits Acceleration Rate (CBAR) to the normal civilian hourly wage rates. As of Jan 1994, the CBAR is 146.1%. CBAR is only applied to the direct civilian labor hours.

Section A - Direct Civilian Labor

For each individual projected to charge labor to the effort, multiply the general schedule hourly rate times the number of hours anticipated for the year times the CBAR. This will provide an annual cost estimate for each individual and a total direct labor estimate. It will also provide the total number hours projected for all civilian labor charged.

Section B - Direct Military Labor

This process is similar to section A, except that the hourly rate (from FM) will already be "loaded" (i.e., includes military benefits, etc.). Performing the multiplication (similar to Section A above) results in a total number of military hours charged and an estimate of the direct labor cost. Remember, according to Figure 1, very few customers pay direct military labor costs. The main reason for performing this calculation is to capture the total military hours estimate.

Total Direct Labor (TDL)

Total direct labor is the sum of both civilian and military hours calculated in sections A and B.

Section C - Non-Military Indirect/Overhead

Non-military indirect/overhead (same as INDIRECT/OVERHEAD - CIV in Figure 1) is reimbursed by those customers with a reimbursement code of BC, BF and FR, which includes AFOSR and BMDO. The JOCAS Rate is different at each PL location, contact your local PL/FM for the current rate at your location.

Section D - Military Indirect/Overhead

Military Indirect/Overhead like Military Direct Labor is only reimbursed by a few customers. The JOCAS Rate is different ateach PL location, contact your local PL/FM for the current rate at your location.

Total SMA: CV and SMA: P

The total annual SMA: CV spend plan estimate is the sum of sections A and C. The total for SMA: P is the sum of sections B and D.

VII. CALCULATING A COST ESTIMATE FOR OTHER DIRECT COSTS

Once the Project Manager has calculated the labor costs for the spend plan, it's time to assess the other anticipated costs related to the effort. All SMAs that start with a C identify costs that are processed through the JOCAS reimbursement process. Budget analysts in FM will ensure these estimates are obligated by accounting and finance as a part of their approval of the FAST Spend Plan. It is the responsibility of the project manager to ensure that expenditures occur in these areas.

Computational Services - SMA: CC

This SMA is used with either contract or in-house JONs for services (e.g. time on mainframe computers) provided by the Phillips Lab computer center, PL/SC. The best way to estimate the amount of funds that will be used each month is to look at similar work that has been done in the past. If this cannot be done the Project Manager (along with the primary individual who will be using the services) should contact PL/FM for help in estimating charges.

Travel - SMA: T

This SMA can be used with either a contract or an in-house JON to cover associated travel costs for PL personnel (contractor travel costs are covered with

contract funds). The Project Manager must estimate the cost of travel and associated expenses that will be incurred each month. These costs include airfare, per diem, conference and course fees, ground transportation, parking, etc. Airfare and per diem rates for specific cities can be obtained from SATO. Since travel requirements often depend on circumstances outside the control of the Project Manager (like meetings scheduled by other agencies) this area is difficult to estimate accurately and may require the Project Manager to make changes to the FAST as the year goes on. Travel money is "obligated" in the month when the travel orders are issued.

R&D Contracts - SMA: Y

The Y SMA only appears on Contract JONs and is used only for funding contractor efforts. The Project Manager estimates when the funds for the contract will be available and asks the Contracting Officers Representative (COR) of the contract that is going to be used how much time it will take to "obligate" the funds once they are available. Then he/she should enter the delay time and estimated obligation date in Table 1.

If the Project Manager is going to send money to another agency so that they can put it on contract he/she should talk to their FM budget analyst to find out the correct procedures and a good estimate for the obligation date. In general, the funds will not be obligated until the receiving organization has put the money on contract.

Supplies and Services

When ordering supplies and services the Project Manager must decide when the item is needed and then determine the lead time for getting it. The lead time will include both the government and vender lead times. First the Project Manager must find out where he will get the item. If it is a PL/Base activity then he/she can contact that activity to determine the lead time. If the item must be purchased off base the Project Manager should contact FM to determine what form/action is required to get the item. FM should also be able to indicate the probable time lag between the Project Manager completing his part of the procurement action and the order actually going to the vendor. The Project Manager can contact the vendor directly to get his lead time, but must make clear to the vendor that he is not a procurement officer and that he is only gathering information and not committing the government. Following are the three SMA areas that are used for obtaining goods and services.

PL/Base Miscellaneous Contractual Services - SMA: CS

Table 2 lists most of the PL/Base activities that require CS funds. The Project Manager should identify any items on his requirements list (Table 1) that can be obtained from these activities. As described above, this SMA starts with a C so the funds are obligated when the FAST entry is approved by the FM budget analyst. This SMA will primarily be used with in-house JONs but can be used with contract JONs, if the items purchased are to be used by the contractor.

Supplies and materials - SMA: CZ

Table 2 lists most of the PL/Base activities that require CZ funds. The Project Manager should identify any items on his requirements list (Table 1) that can be obtained from these activities. This SMA will primarily be used with in-house JONs, but can also be used with contract JONs if the items purchased are to be used by the contractor.

Goods and Services - SMA: S

This SMA will be used to purchase most items that can not be obtained through the activities identified as being funded out of the C areas. This area can be used under in-house or contract JONs. There are several different procurement forms and activities which require funding from the S area. The Project Manager should contact the FM point of contact to determine the

JON LABOR ESTIMATE WORKSHEET

(Use to calculate SMAs CV and P for JOCAS reimbursements)

Direct Civilian Labor is charged to all Projects, except PL 6.2 and some ILIR projects.

A

Civilian Name	Grade	GEN. SCHED. HOURLY RATE	X	ANNUAL HOURS *	X	JOCAS CBAR	=	ANNUAL COST
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
			X		X	1.461	=	
Civilian Subtotal Annual Hours =						Direct Labor =		A

Direct Military Labor is charged to Non-DOD funded projects only (e.g., DOE).

B

Military Name	Grade	ANNUAL HOURS *	X	HOURLY SALARY	=	ANNUAL COST
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
			X		=	
Military Subtotal Annual Hours =				Direct Labor =		B

TOTAL DIRECT LABOR (TDL) = ____

The sum of Civilian & Military Subtotal Annual Hours from above is used to calculate the total direct labor (TDL).

C

Non-Military Indirect/Overhead is charged to AFOSR, BMDO, and all other Non-AF Customers

PL/FM can provide the local JOCAS rate, when applicable.
Use total direct labor (TDL) for calculation.

TDL	X	JOCAS Rate	=	ANNUAL COST	
	X		=		C

D

Military Indirect/Overhead is charged to Non-DOD funded projects only (e.g., DOE).

PL/FM can provide the local JOCAS rate, when applicable.
Use total direct labor (TDL) for calculation.

TDL	X	JOCAS Rate	=	ANNUAL COST	
	X		=		D

TOTAL SMA "CV" = ____ A+C

TOTAL SMA "P" = ____ B+D

* There are 1728 direct hours in a year.

Figure 3. JON Labor Estimate Worksheet

correct form. FM should also be able to tell him what the lag time will be from the time the Project Manager completes his part of the procurement action until the contract/order is placed with the vendor. It is the contract/order that actually obligates the money so the Project Manager must enter the lag/delay time in Table 1 and then calculate the obligation month.

VIII. SPEND PLANS AT EDWARDS (OL-AC)

Requests for support from AFFTC (Flight Test Center) also referred to as main base for such things as radar support, photo support, civil engineering, utilities, comm squad support, etc., require the project manager to establish a main base support JON to collect costs. Such support is the funding responsibility of the project and is usually funded on an AF Form 185 (Project Order) written to AFFTC/FMB.

Photo support requirements of projects funded outside of PE 62302F should be included in SMA:S and effective immediately will require the establishment of a main base support JON (if none currently exists) in addition to a funded project order to cover those costs. It is also imperative, in the scheduling of photo support, as well as any other required main base support, that the ordering party (project manager or representative) provide the supporting AFFTC organization with the project's main base support JON for billing purposes. Only projects funded outside of PE 62302F are affected for photo support. All projects including those funded by 62302F, are affected if the requested Flight Test Center support is for other than photo.

IX. FILLING OUT THE FAST SPEND PLAN

By now it is assumed the Project Manager has identified the SMA and obligation month for each of the items that project funds will be spent on. Table 1 should be complete. All that needs to be done now is add up the total for each month and for each SMA and enter them in the FAST spend plan. Figure 4 is a sample of the FAST Spend Plan screen.

X. SPEND PLAN ADJUSTMENTS

One final note. Project Managers must continually review their spend plans in FAST and ensure that they reflect their current budget allocation. Spend plans are typically entered into the FAST early in the fiscal year based on anticipated budget allocations. Once the appropriation is approved by Congress, many program elements experience changes in their anticipated funding which ultimately results in changes in individual JON allocations. These changes must be reflected in the FAST.

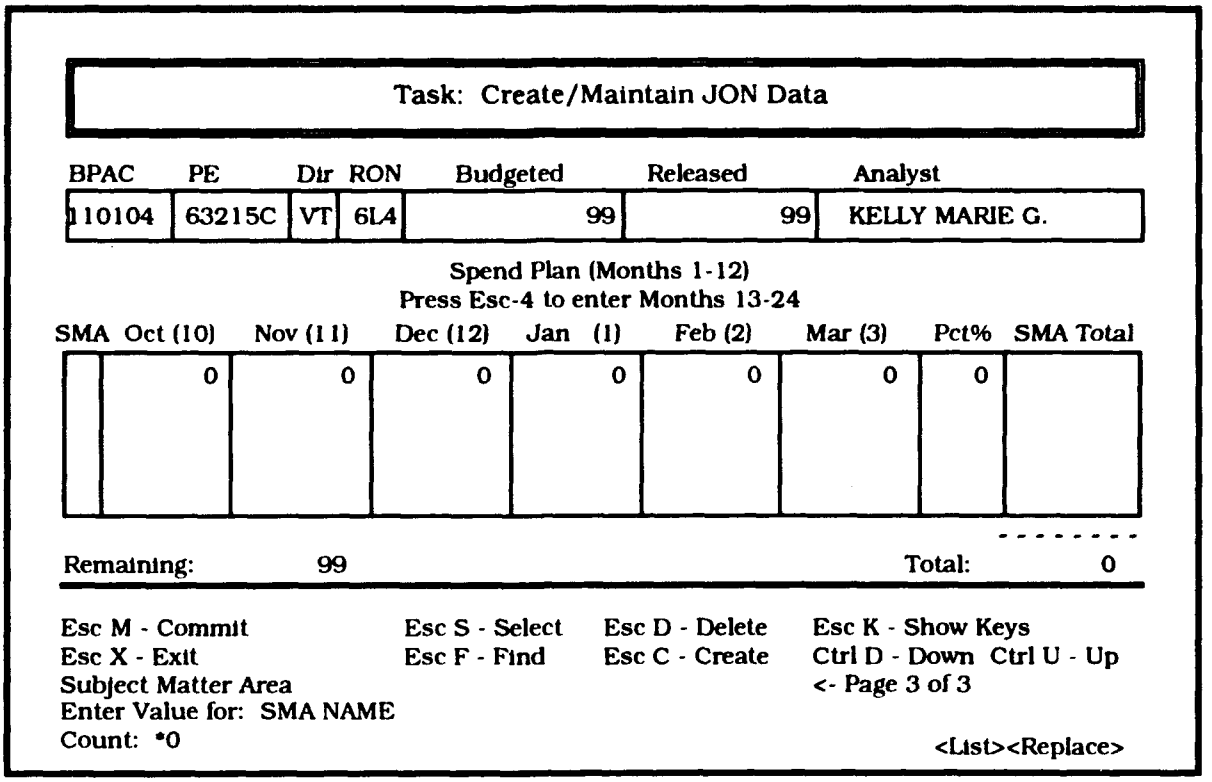

Figure 4. Sample FAST Spend Plan Screen

Frequent Analysis System Tracker (FAST)

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division, PL/XPP
(505) 846-4329; DSN 246-4329

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

The Frequent Analysis System Tracker (FAST) is the name for the Phillips Laboratory management information system. Project Managers primarily use two main modules: Financial Management and Personnel. However, two other modules that are available to the project manager are the Travel Order Generation System (TOGS) and Suspense Tracking System (STS). You will not see these modules on your menu unless you have been granted use of them. Following is a brief description of each module.

III. FINANCIAL MANAGEMENT MODULE

Create/Maintain JON Data

This module is where all data pertaining to financial management is electronically entered and standard reports can be generated. You will use this module to create, maintain, update and store data pertaining to your Job Order Number (JON) and its associated Defense Technical Information Center (DTIC) information. The data you enter electronically passes through several approval steps prior to being validated. This module is where you enter your initial spend plan, which will be maintained throughout the life cycle of your JON. As you make changes to your spend plan, the most current plan can be used for comparison with your baseline plan.

The Job Order Cost Accounting System (JOCAS II) interfaces with FAST and provides up to date manhour data entered by timekeepers at the end of each pay period as well as expenditure data from Accounting & Finance. For details about how to use the Financial Management Module, please refer to the FAST User's Manual obtainable through PL/XPPH.

The actual transactions recorded in the local Defense Accounting Office (DAO) Document Summary Record (DSR) is linked to this module and provides official accounting information. Amounts from the committed, obligated and expended records are accumulated by JON, and subject matter areas (SMAs) are linked to the information in the Financial Module. This linked data provides the project manager with the latest official information. DSR data tapes are picked up on a weekly basis from the DAO.

Create/Maintain DTIC Data

This module is where all of the required information to be submitted to the Defense

Technical Information Center (DTIC) is entered.

Common data elements entered in the Create/Maintain JON Data screens will be automatically reflected in the DTIC screens when the DTIC Data screen is accessed.

Information entered in the DTIC Data screens is submitted to DTIC monthly.

IV. PERSONNEL MODULE

This module is where all personnel data is electronically entered and standard reports generated. You can use this module to update any changes to your personnel (e.g. new phone number, office symbol) or changes to manpower records (e.g. UMD position). The Financial Module is linked to the Personnel Module to ensure consistency in name, organization and phone data.

V. TRAVEL ORDER GENERATION SYSTEM (TOGS)

This module is used by those individuals in the laboratory who generate and approve travel orders at Kirtland and Edwards AFB only. It links to the Personnel Module. The Financial Module, while not linked to TOGS at this time, is an important player in this module since the budget analysts can determine if there are funds available in the travel line to cover the dollar value of the travel order in process.

VI. SUSPENSE TRACKING SYSTEM MODULE (STS)

This module is used by the Command Section to assign and track PL suspenses.

Management Reviews

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

II. TECHNICAL MANAGEMENT REVIEWS (TMR)

Purpose. The purpose of conducting periodic TMRs is to systematically review the technical activities within the Phillips Laboratory at the work-unit level and to ensure that the Lab resources are being utilized to optimize the mission.

TMR Objectives. There are two main objectives for conducting TMRs:

--To provide an understanding of program structures and definitions.

--To provide for the exchange of information, and the periodic assessment of Laboratory technical functions, and the receipt of management direction.

TMR Policy

There are three basic types of technical management reviews (TMRs). An Initial TMR will be conducted at the establishment of a work-unit, and will be conducted by the Director. Periodic TMRs are conducted throughout the life of the work-unit and should be recorded as progress in FAST. A Completion TMR will be conducted when the work-unit is ready for closeout and a final progress report should be entered into FAST.

The frequency that TMRs must be conducted will be decided at the Initial TMR. The frequency will typically be based on the size of the work-unit, but other factors, such as management visibility, may enter into the decision. All work-units must be reviewed at least twice each year.

The management level at which the periodic reviews will be conducted will also be decided at the Initial TMR. Again, the same factors as above enter into the decision. The lowest level of review for any work-unit will be the Division Chief.

Work-unit Planning. Decisions on which work-units should be established are made in a number of ways--directions from headquarters, local management discussions, proposals from Project Managers, etc. During this planning cycle, the Project Manager should be preparing a plan that contains a specific objective, technical approach, schedules, resources required for the entire period of activity (including completion/termination costs), support required from other organizations, etc. This plan will be presented for approval at the Initial TMR. The time of the people involved in the planning should be charged to an overhead JON, 9991PLAN -- Advanced Planning.

Work-unit Documentation. The documentation needed to start a work-unit includes:

- -- Specific Objective
- -- Literature Search
- -- Environmental Impact Analysis/ Safety Plan
- -- Technical Approach
- -- Expected End Product
- -- Schedule (start-finish dates)
- -- Spend Plan
- -- Total Resources Required
- -- Sources of Dollars and People
- -- TAP/Thrust/FTA
- -- Support From Others

Initial TMR

After preparation of the work-unit plan, the Directorate Chief will hold an Initial TMR. Management, technical advisors, and staff (PK, FM, XP, DO, as appropriate) should attend. Using the work-unit plan as a baseline for the review, and the Technical Management Review Record (See Figure 1) as the instrument to record the review, the following information should be discussed:

TECHNOLOGY MANAGEMENT REVIEW RECORD	1. LAST REVIEW DATE
2. JON/TITLE/CONTRACT NO./CONTRACTOR	
3. PROJECT MANAGER/ORGN.	4. NEED TO CONTINUE JON ☐ YES ☐ NO (If 'No,' explain in Remarks)
5. TMR ☐ INITIAL ☐ PERIODIC ☐ COMPLETION	6. TECHNOLOGY TRANSFER ASSESSMENTS TO ORTA ☐ YES ☐ NO

7. ASSESSMENT CRITERIA AND STATUS

REVIEW AREAS	SATISFACTORY	MARGINAL	UNSATISFACTORY	NA
TECHNICAL				
FINANCIAL				
SCHEDULE				
CONTRACTING				
DELIVERABLES				
MANNING				
TESTING				
LOGISTICS				
ENVIRONMENTAL				
FACILITIES				
DOCUMENTATION				
OTHER (Specify)				
OVERALL RATING				

8. REMARKS (Required if Marginal or Unsatisfactory)(Continue on Reverse/Plain Bond)

9. FOLLOW-UP ACTIONS/COMMENTS ON PAST ACTIONS (Continue on Reverse/Plain Bond)

REVIEWER	DATE	OFF. SYM.
REVIEWER	DATE	OFF. SYM.

Figure 1. Technology Management Review Record

Technical:

--Is the work within PL's mission?

--Does the stated objective adequately describe the needed work?

--Is the objective sufficiently specific to allow progress against that objective to be measured?

--Is the end product of this effort clearly defined?

--Is there a stated requirement for this product?

--Does the technical approach appear to be a logical method of achieving the objective?

--What other alternatives were considered, and is the rationale for selection of the stated approach adequate?

--Are there similar/related efforts going on elsewhere? Has A literature search been accomplished? What were the results?

--Does this technical approach adequately support the TAP/Thrust/FTA?

--Is the approach consistent with the PMD/PMA and descriptive summary?

Financial:

--How much is this work going to cost?

--What is/are the source(s) of funds?

--Does the projected rate of spending (forecast of commitments and obligations) agree with the proposed technical plan?

--If funds are required in more than one fiscal year, do outyear budgets include this effort?

--If the work is to be contracted, how much will be for actual expenses (e.g., civilian salaries)?

Schedule:

--Does the projected schedule agree with the technical and financial plan?

--Is this the type of effort that allows for definition of specific technical/programmatic milestones, or is this a level-of-effort schedule?

--If this is a contracted effort, does the schedule provide sufficient time for preparation and processing of the purchase request?

--Does the urgency of the work warrant special attention from support personnel?

Contracting:

Almost all work-units require procurement of supplies and equipment or services.

--Have PL/PK people been involved?

--If this is to be an R&D contract and Air Force S&T funds are being used, has a Technical Investment Plan (TIP) been accomplished?

Deliverables:

--What are the deliverables from this work-unit?

--Is there a suspense system set up to monitor the receipt of deliverable items?

--Are the data deliverables considered in the suspense system?

Manning:

--How much PL manpower will be required?

--Are other PL directorates (including support directorates) involved? If so, does/do the other directorate chief(s) concur in providing support?

--Is the manpower currently available?

--Does applying manpower to this work-unit affect any other ongoing work-unit?

--If this is a contracted work-unit, who (by name) is being suggested for the technical evaluation team?

Testing:

--If testing is necessary, will a test plan be prepared?

--Will test equipment, facilities and personnel be available when needed?

--If hardware is a deliverable, is acceptance testing well defined in terms of location, division of responsibility, procedures?

Logistics:

--Does supportability, producibility, reliability, maintainability, life cycle costing, etc., apply? If not, why not?

--Has this effort been coordinated with your acquisition logistics specialist?

Environmental:

--Has the environmental impact of this work-unit been considered (AF Form 813)?

Facilities:

--Are the current facilities adequate?

--Will any construction/facility mods be needed?

Documentation:

--Is the work-unit plan adequate?

--Does the project manager understand the need for case files? Has a case file been established?

--Are the records of previous TMRs included in the R&D Case File?

TMR Approval:

Is the work-unit approved? The Directorate Chief may give partial or temporary approval. Example: The work-unit may be for a contract that will require a higher approval than the Directorate Chief. In that eventuality, the Directorate chief may approve all resources necessary to prepare and process the purchase request and defer full approval.

If the work-unit is approved, how often will the work-unit be reviewed and at what level?

If there are actions that are needed before the next review, those actions must be recorded on the Technical Management Review Record.

If the work-unit is approved, the Directorate Chief signs the Technical Management Review Record. This form is then used as the authority to assign and approve the JON.

Once the JON for this mission work-unit is approved, all further expenses must be recorded to the new JON.

Periodic TMRs

The work-unit will be reviewed on a regular basis (frequency and level as determined at the initial review) throughout the lifetime of the work-unit.

Review action items as documented on the Technical Management Review Record from the last review.

Compare each assessment criteria on the Technical Management Review Record to the plan or forecast and note deviations.

Check the case file. A quick, personal inspection by management should give a good indication of the attention the Project Manager gives to that record.

Verify that appropriate progress is being reported to DTIC.

Make sure all Technical Management Review Records are filed in the case file and recorded in FAST.

Completion/Termination TMR

Contract work-units are technically complete at the contract end date and when the final DD Form 250 is signed. A final progress submission must be made in FAST to be transmitted to DTIC. That submission should include a reference to the Technical Report. The JON should not be closed out at this point, allowing the Project Manager to continue to charge time while completing case files, arranging for printing of the final report, and disposing of any residual supplies and equipment. If the hardware or software from a contract is used in-house after a contract ends, or

comparable in-house work is pursued after a contract ends, a new in-house work-unit (i.e., JON) must be established with it's own objective, resources and plan.

In-house work-units will be terminated when a TMR shows that the objectives have been met or that further progress is not warranted. A final input must be made in FAST to be transmitted to DTIC with reference to the final report. The JON may remain open while the files are closed out.

Documenting TMRs. Copies of all documentation relating to the work-unit plan, records of the TMRs and management decisions must be made part of the case files.

III. COMMANDER'S MANAGEMENT REVIEW (CMR) PROCEDURES

The CMR process was created to review management activities within the Phillips Laboratory. Each directorate is given the opportunity to review their management level activities with the Phillips Laboratory Commander. Philosophically, this review should be traced to the top level (Technology Area Plan) through to the lowest level (Focused Technology Area). The directorate review to the Commander should address the efforts at the major thrust and subthrust level.

CMR Objectives

There are two main objectives for conducting CMRs:

--To ensure periodic, comprehensive communications between the Laboratory Commander and Laboratory Directors.

--Provide for the exchange of information, the assessment of Laboratory management functions, and the receipt of management direction.

CMR Policy

CMRs will normally be conducted quarterly for each Directorate.

CMRs will be received by the Commander, the Executive Director, or the Vice Commander.

CMR Review Format

The following is general guidance and should be specifically tailored for the CMR. Backup or supplementary information may be used as applicable. If an area lends itself to assessment, use blue (excellent), green (satisfactory), yellow (marginal), or red (unsatisfactory). In general, a marginal rating will be used to denote a problem that is correctable by the presenting organization, and is being presented for information only. An unsatisfactory rating requires resolution above that of the presenting organization. An unsatisfactory rating must be accompanied by a point paper that lists the unsatisfactory area, describes the problem, discusses actions taken to resolve the problem and recommends a solution.

--Organization. Display an organizational chart down to the branch level. Include names of the division and branch chiefs. Show changes since the last review and expected near-term changes.

--Manning. Show summary data to reflect authorized versus assigned for permanent personnel, and assigned strength by category for temporary personnel. Details may be shown if significant changes are occurring. Assess the ability to accomplish assigned mission with available manning.

--Facilities. Present information on currently occupied facilities. Discuss planned construction projects or facility changes.

--Programmatic. Show the mission of the Directorate with a listing of the major thrusts and associated subthrusts under which the mission is executed. Assess technical progress versus planned.

--Financial. The standard for comparison is the spend plan baseline, which is entered for each JON and can be totaled for each BPAC or PE. An explanation is

needed if there is a significant lag between the baseline and actual obligation data (a difference of more than 10%). The data for this chart will be from the FAST. PL/FMB is responsible for providing execution data for current and prior years.

--**Contractor Cost Performance.** Project Managers will brief contracts (with CPR or C/SSR reporting) that breach cost performance thresholds.

--**Follow-up Actions.** List all follow-up actions from prior reviews and provide status (as appropriate).

--**Significant Events.** Show and describe events that have happened in the past quarter and events that are expected in the next quarter. Specifically, include Technology Transfer/Dual Use achievements for the reporting period.

--**06 Reimbursable Goal.** Report for your directorate the 06 reimbursable goal versus actuals toward reaching this goal. Present this data in "snake" chart format, showing reimbursable by month.

Note: In FY95, when the Free Market model is implemented the 06XX funds will be replaced with an "06 type" carrier account. See the chapter on SPEND PLANS.

--**Special Topics.** Presentation of those items that the presenter wishes to bring to the attention of the Commander. If time permits, selected technical subjects may be presented.

Review Attendance. All Directors or their representative must attend each CMR.

CMR Responsibilities

The Laboratory Commander will ensure two-way communication channels exist and give support to correct deficiencies identified in CMRs over which the presenter has little or no control.

The presenting Directorates are expected to provide 14 copies of the briefing before the CMR. A copy will be given to CC, CD, CA, each directorate and to XPP.

PL/XPP will maintain a master copy of all presentations and point papers and track status of all follow-up actions.

Scheduling and formal direction will be directed from the PL/XPP office. XPP will inform the Directors on the format of the charts, the times and locations of the CMR.

IV. PROGRAM MANAGEMENT REVIEW (PMR) PROCEDURES

Space and Missiles Systems Center (SMC) has established a series of Program Management Reviews (PMRs). The PMR which the PL presents is called "PMR-7." The PMR is an opportunity for the Phillips Laboratory Commander to present to the SMC Commander a current status of business and technical topics. The SMC Commander's Action Group schedules the PMR based upon the SMC Commander's schedule and the availability of the Los Angeles AFB Videoconference Center.

PMRs are usually scheduled for one hour. The first half of the review is spent covering the business topics. Management of PMRs cover financial, contractual, personnel issues and other pertinent issues as they arise. PL/FM is responsible for providing execution data for current and prior year funds. The financial charts include a color grid status chart and line charts which show the budget, cumulative commitments, obligations, and expenditures. One financial chart each is shown for Total PL, Total Air Force Funds, Total BMDO Funds, and Customer Funds. PL/PK is the source of data for the contracts charts. Various charts are shown regarding contract status depending upon current situations. PL/CD prepares the personnel charts with assistance from civilian/military personnel and manpower.

The second section of the PMR is dedicated to the Technical Directorates briefing 2-3 subjects from their area. The directorates are free to select topics of their choice and

present them accordingly. Each briefing is allowed 6-8 minutes. The Technical Directorates are rotated on the briefing schedule which gives each the opportunity to brief twice a year.

All briefers are notified by PL/XPPJ for the PMR and the dry run time schedule. Briefers need to submit final hard copies of their charts to PL/XPPJ NLT noon, two days prior to the PMR. Refer to PL/XPPJ for a more detailed breakdown of preparation procedures for the PMR

Other Government and Nonprofit Agency Support

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division, PL/XPP
(505) 846-4329; DSN 246-4329

Plans and Programs Directorate
Space and Missiles Tech Div., PL/XPS
(505) 846-6756; DSN 246-6756

Plans and Programs Directorate
Advanced Weapons Tech Div., PL/XPD
(505) 846-2251; DSN 246-2251

Operations Directorate
Research Services Office, PL/SU
(505) 846-4801; DSN 246-4801

Contract Law and Laboratory Support Div.
377 ABW/JAN
(505) 846-1542; DSN 246-1542

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

A project often requires support from other government agencies. Conversely, the PL may be asked to provide support to another government agency.

AFMCR 172-8, Uniform Reimbursement and Pricing Policy, establishes formal procedures for obtaining and providing support. An AFMC Form 607, Budget Estimate Agreement (BEA), is a suitable format for meeting the statement of capability (SOC) requirement prescribed in this regulation. See Figure 1.

A Memorandum of Agreement (MOA) is used to document the conditions of support. First, we determine if an agreement is appropriate and what type of an MOA is appropriate. The intraservice MOA is between USAF organizations while non-USAF organizations require an interservice or interdepartmental MOA. All three types follow the same general format and approval process. These procedures will be covered in greater depth throughout this chapter.

Once a support agreement is approved, you must provide or obtain funding.

Annually review your MOAs and revise them if needed.

III. OBTAINING SUPPORT

When PL requires support which USAF organizations cannot provide, we can contract for support from outside sources such as other government agencies, universities, or private industry. Before we go to government agencies other than the Air Force for support, the Economy Act of 1932 requires that we determine that private industry cannot do the work more conveniently or at lower cost. Further, AFR 80-14 AFMC Supplement 1 requires that AFMC test agencies accomplish test and evaluation (T&E) for other AFMC activities to the maximum extent practicable. Obtain a waiver from HQ AFMC before planning, contracting or conducting T&E which uses

BUDGET ESTIMATE AGREEMENT
(COST OF TEST AND EVALUATION (T&E) SUPPORT OR OTHER IN-HOUSE TECHNICAL EFFORT)

TO: *(Ordering Activity)*	FROM: *(Performing Activity)*
MARCORSYSCOM Code AW Tactical Directed Energy Quantico, VA 22134-5080	PL/LIDA Kirtland AFB, N.M. 87117-6008

1. IDENTIFICATION OF ORDERING ACTIVITY PROGRAM THAT WILL REIMBURSE PERFORMING ACTIVITY

A. PROGRAM ELEMENT NUMBER	B. PROGRAM ELEMENT TITLE
C. PROGRAM/PROJECT NUMBER	**D. PROGRAM/PROJECT TITLE**
	Saber One

2. DESCRIPTION *(Brief description of T&E support or other in-house technical effort to be performed and an estimate of period of accomplishment; start and completion dates. Continue on reverse, if necessary.)*

1. T&E Support Description
Phillips Laboratory will provide the technical and management of the Saber One project.

2. Cost
The total estimated cost of this effort is $ 50,000.00, all in FY93. A breakout of all costs is presented in section 4.

3. Contacts

1. Administrative	PL/FMBA, Ms Alice Pare, DSN 246-2100
2. Technical	PL/LIDA, Mr Michael Allen, DSN 246-7034
3. Technical	USMC/AW, Maj Tom Marchegiano, (703)640-2220
4. Administrative	USMC/AW, Ms Carol Rushin, (703) 640-4800

4. Period of Performance
Thru 30 September 1993.

Nicholas R. Pchelkin
Chief, Sem. Laser App. Br.

3. ESTIMATED COST OF EFFORT TO BE PERFORMED *(BY COST CATEGORY)* DURING BUDGET YEAR FY 93	DOLLARS IN THOUSANDS	4. AMOUNT TO BE REIMBURSED BY ORDERING ACTIVITY FOR BUDGET YEAR FY 93
$ 1,480.00	A. DIRECT LABOR - MILITARY	$ 0
5,395.74	B. DIRECT LABOR - CIVILIAN	5,395.74
41,300.26	C. OTHER DIRECT COSTS	41,300.26
1,066.72	D. INDIRECT/OVERHEAD - MILITARY	0
3,304.00	E. INDIRECT/OVERHEAD - NONMILITARY	3,304.00
	F. USER CHARGES *(AFR 177-8)*	
$ 52,546.72	TOTAL	$ 50,000.00

TYPE NAME AND GRADE OF COMMANDER OR AUTHORIZED REPRESENTATIVE OF PERFORMING ACTIVITY	SIGNATURE	DATE
CHRIS AYALA, GS-12 Chief, Mission Support Branch	Chris Ayala	3 Jan 93
TYPE NAME AND GRADE OF PROGRAM/PROJECT MANAGER OR AUTHORIZED REPRESENTATIVE OF ORDERING ACTIVITY	**SIGNATURE**	**DATE**
Tactical Directed Energy		

AFSC FORM MAY 81 607 PREVIOUS EDITIONS ARE OBSOLETE. AFSC-Andrews AFB MD 1981

Figure 1. Sample AFMC Form 607, Budget Estimate Agreement

other than AFMC resources. The AFMC supplement outlines the few exceptions.

All arrangements for support to PL by other government agencies, their contractors or FFRDCs must be written and be as definitive as the circumstances permit and supported by appropriate documentation. It is unacceptable to simply provide funds to another agency with only a vague, informal understanding as to the recipients and the PL's responsibilities. A "contract" states as clearly as possible the nature and extent of the support, as well as estimated costs to PL.

Informal discussions between the technical personnel of PL and the proposed supporting agency cannot commit PL funds. They only lay the groundwork for formally establishing the support.

The formal records required before sending any funding document to another agency consist of a PL program introduction document (PID)/program requirements document (PRD) and a statement of capability (SOC) from the proposed supporting agency in response to the PID/PRD. In many instances a negotiated agreement can satisfy the PID/PRD and SOC requirement.

The PID/PRD typically comes in letter format and states the support required, including time constraints and any intended PL inputs (such as data or hardware). The PID/PRD will include a statement of work (SOW) in enough detail to leave no doubt concerning its meaning. Reporting requirements (type and frequency) should be addressed, as it remains a PL responsibility to see that the results of any technical effort we sponsor are properly documented and sent. The PID/PRD establishes whether the supporting agency will publish a formal technical report (TR) or whether PL will publish the TR based on the other agency's inputs. The PID/PRD should reference any applicable long-term agreements between PL and the proposed supporting agency, as well as request that the cost estimate be in enough detail to let PL evaluate its reasonableness. The exact mailing address should be requested for any funding document that might result. If hardware items are acquired, the PID/PRD should address disposition of such hardware.

The Project Manager's division chief signs the PL PID/PRD, with the following exceptions:

--If it will require a substantial portion of t[illegible]roject's funds;

--If the Commander has expressed a specific interest in it; or

--If project 06XX will fund it. (Note: In FY95, when the Free Market model is implemented the 06XX funds will be replaced with an "06 type" carrier account. See the chapter on SPEND PLANS.)

In these cases, send it without a signature element through the division chief to PL/XPP for PL/CC signature.

The proposed supporting agency should respond to the PID/PRD with an SOC. You must evaluate the SOC, which is usually in letter format. If the SOC is adequate and the cost estimate acceptable, prepare the proper funding document for a funds transfer to the supporting agency. The SOC must accompany the document to FM.

IV. PL PROVIDING SUPPORT

When other government organizations ask PL to do work, the following regulations apply: AFMCR 172-8, Uniform Reimbursement and Pricing Policy; AFR 170-2, Project Orders; and AFMCR 177-2, Orders for In-House Technical Effort. These regulations require written requests detailed enough to let us determine if we can do the work and help in estimating costs.

To do this, these are the usual steps:

--Technical personnel of both organizations discuss the tasking.

--The other organization requests support from PL in the form of a PID/PRD.

--PL prepares an SOC that becomes both the technical and cost basis of performance. The SOC is prepared on an AFMC Form 607, but if it is extensive it may be in a plain narrative format and must include all cost information.

--When PL signatures have been obtained, the original copy is sent to the requesting organization for their appropriate signatures. The requesting organization then forwards the completed SOC and the funds to the PL to finance the work to be performed. Once this is accomplished, the effort is considered active.

Keep these principles in mind:

--The requesting agency provides funds according to the reimbursement policies in AFMCR 172-8. Only the PL Commander can waive reimbursement up to $20,000.

--PL/FM ensures that cost estimates provided to the requesting organization are complete, accurate, and IAW current regulations.

--Incremental funding rules apply the same as for any other transactions. In principle, this means that cost estimates must be broken down into fiscal year requirements and funds provided by fiscal year.

-- Congress has prohibited the use of funds appropriated for one program to cover obligations under another program during a temporary exhaustion of funds, even if repayment is contemplated. This makes it illegal to cite PL funds on a funding document until customer funds arrive. This rule applies to all other types of contract, without exception. If the work must begin promptly, a Miscellaneous Obligating Reimbursement Document (MORD) may be established pending receipt of funds. This MORD is signed by the Commander or his designated representative and remains good for 120 days.

--The Project Manager must track expenditures against estimates and notify the customer promptly if additional funds are needed to finish the work.

V. NEGOTIATED AGREEMENTS

Two distinct types of agreements are presently used by the Air Force depending on the nature of the support involved. The first, a formal Host-Tenant Support Agreement (HTSA), is an agreement used normally for base services type support, (e.g., HTSA between the 377 ABW and PL at Kirtland). The second type of agreement is a Memorandum of Agreement (MOA)/ Memorandum of Understanding (MOU). MOAs are used to document all varieties of agreements excluding formal support agreements. More often than not, three types of support provided by an MOA are required:

--Participation in or accomplishment of a particular task that requires the involved organization's expertise.

--Use of unique or special R&D equipment or devices.

--General cooperation with specific tasks to be accomplished contained in subsequent "annex" agreements.

VI. AGREEMENT TERMS

Host-Tenant Support Agreement (HTSA). The HTSA is normally used for base services type support, (e.g., HTSA between the 377 ABW and PL).

Memorandum Of Agreement (MOA) or Understanding (MOU). There is no difference between an MOA and MOU. Both are used to provide and document all varieties of support not covered by HTSAs. The MOA is a formal agreement between two or more organizations where each participant agrees to provide or receive

specific support. The MOA may establish cooperative functional relationships in areas of mutual interest on a repetitive or continuing basis. Agreements prescribe policy and general procedures, and commit organizations to provide resources or services.

Office of Primary Responsibility (OPR). Any project or staff office having primary functional interest in and responsibility for developing and maintaining particular MOAs.

VII. TYPES OF MOA AGREEMENTS

Air Force regulations define three organizational categories of MOAs:

Intraservice Agreements: Agreements strictly between Air Force Organizations.

Interservice Agreements: Agreements between a USAF organization and another component organization of the DOD.

Interdepartmental Agreement: Agreements between a USAF organization and a federal agency outside DOD.

The first step in preparing an MOA is the determination of whether the agreement will be intraservice, interservice, or interdepartmental in nature. This determines the governing regulations, requisite documentation, and approval cycle.

VIII. INTRASERVICE MOA/MOU

Several regulations apply to these MOAs: AFR 11-4 and AFMC Sup 1, Host-Tenant Support Responsibilities of USAF Organizations; AFMCR 172-8, Uniform Reimbursement and Pricing Policy; AFM 172-1, Vol. 1, Chap 7, Sec I, USAF Budget Manual - Policies and Procedures. These regulations, AFR 11-4 in particular, primarily address HTSAs rather than MOAs. Despite this, they remain the governing regulations for both HTSAs and MOAs.

With two exceptions, all intraservice MOAs use AF Form 149, USAF Host-Tenant Support Agreement, as a cover sheet to document the MOA and the approving signatures. AFR 11-4 explains how to complete AF Form 149, and PL/XP will help you complete it.

The first exception to the use of AF Form 149 is for agreements with Air Force Contract Administration organizations. These MOAs typically detail specific contract administration support such as surveillance of cost, schedule controls, and procurement quality controls. For these, use AFMC Form 216, Contract Administration Service Memorandum of Agreement in place of AF Form 149 as a cover sheet to document the MOA and the approving signatures.

For the second exception, use an AFMC Form 607, when an outside organization requests a specific in-house technical effort or computer support from the PL and directly transfers funds to the PL. In addition, the AFMC Form 607 is used for planning and budgeting for the current fiscal year only. Should the period of performance exceed one fiscal year, complete an AFMC Form 607 for each fiscal year. This should be done at least one month before the start of the new fiscal year to allow sufficient time for coordination and approval. An MOA can be written to outline and specify funding arrangements, although it may be simpler to complete an AFMC Form 607 for the above types of support since they usually lack sufficient scope and complexity to require an MOA. If an MOA exists, however, and the funding arrangements contained in it are less than adequate, you may attach an AFMC Form 607 to the MOA instead of rewriting the MOA. For policy and procedures, refer to AFMCR 172-8.

IX. INTERSERVICE AND INTERDEPARTMENTAL MOA

These MOAs are governed in part by the same regulations that apply to intraservice

MOAs. In addition, DOD Manual 4000-19, Defense Retail Interservice Support (DRIS) Manual, applies. The DRIS manual prescribes DD Form 1144, Support Agreement, for all interservice and interdepartmental MOAs. This form serves to document approving signatures. DOD Regulation 4000.19 contains instructions for completing DD Form 1144. As OPR for the DRIS manual, PL/SU will help you complete your DD Form 1144.

Note that you use an AFMC Form 607 for interservice and interdepartmental MOAs as an estimate of costs only and not as the complete agreement document. The DD Form 1144 is for this purpose and to document approving signatures. The only exception to this is computer support where the AFMC Form 607 can stand alone.

Occasionally the Air Force provides test and evaluation support to non-governmental organizations. The policy, authority, and limitations on procedures for providing this support as well as the attendant documentation requirements are found in AFR 80-19, Support of Non-governmental Test and Evaluation.

X. MOA FORMAT

There is not a prescribed format for a MOA, but the following should be included for a complete record:

--Purpose.

--Scope/Terms of agreement.

--General/Background/Procedures.

--Designating agency responsibilities.

--Other agency responsibilities.

--Points of contact and key personnel.

--Administrative Procedures (including financial provisions, manning requirements, if applicable, change or termination procedures).

--Review and termination dates (usually reviewed annually for adequacy).

--According to DOD 4000.19-R and AFR 11-4, all MOAs must contain either a DD Form 1144, Support Agreement, or AF Form 149, USAF Host-Tenant Support Agreement. Only signatures on these forms will authenticate the document.

Although we cannot control the format of agreements prepared by other organizations, attempt to make sure the information above is contained in any MOA they provide us. Remember, small omissions in the MOA can lead to costly problems.

XI. AGREEMENT APPROVAL PROCESS

When your agreement is ready for final review, route it with a staff summary sheet from your office through the following:

--Division and Directorate - Coord

--SU, if the MOA is interservice or interdepartmental - Coord

--MO (review for potential manpower impact) - Coord

--SE (Safety and Environmental review) - Coord

--FM - Coord; To ensure funding responsibilities are adequately defined.

--XPP - Coord; XPP will coordinate with XPA to ensure supportability considerations are adequately addressed.

--377 ABW/JAN - Legal sufficiency review and coordination.

--CCE - Coord

--CV/CC - Sign

PL/XPP is the Laboratory office of record for all MOAs and the f oint for all

intraservice MOAs. As such, PL/XPP assists in several ways:

--Provides guidance and assistance in all phases of agreement preparation and processing.

--Reviews all agreements for policy conformance and format before command approval.

--Makes sure financial arrangements and procedures are sufficiently detailed so that each organization knows its responsibilities.

--Determines the appropriate signature authority within PL. XPP will consider size and duration of proposed support, manpower commitments, and funding level.

--Advise the PL originating office of approval, or of changes necessary for approval before signature.

--Returns approved agreements to the originating office for transmittal to the participating organization for completion signatures.

--Maintains a file of all completed agreements for the record. To do this, XP needs you to send copies of all completed forms to them. This applies to all agreements, whether generated by PL or another organization. The OPR for all intraservice MOAs is PL/XPP

--Provides the needed forms: AF Forms 149, AFMC Forms 607, DD Forms 1144, and AFMC Forms 216.

PL/SU is the PL office of record for all HTSAs and focal point for all interservice and interdepartmental MOAs. These agreements are governed by the Defense Retail Interservice Support (DRIS) manual, and SU is the OPR for the DRIS program. As focal point, SU will help you prepare DD Forms 1144 and should be included on the staff summary sheet for final coordination. As office of record for HTSAs, SU should be provided copies of all completed HTSAs.

XII. MOA ANNUAL REVIEW

All PL MOAs, whether prepared by PL or the participating organization, shall be reviewed for accuracy and currency once a year regardless of the termination date. Make your review on either the anniversary of the signature date or the effective date, whichever is earlier. Determine whether the MOA is current or requires revision. Should the MOA require revision or update, follow the MOA procedure revisions below.

XIII. MOA REVISION PROCEDURE

An MOA requiring revision is subject to the same procedures outlined above. If the changes involve no more than a name or phone number, review will normally not be required beyond PL/XP and the approving signature may be obtained at the originating office level. If updating involves more significant changes (such as changes in funding, organizational responsibilities, and scope), PL/XP will determine the appropriate signature authority. In preparing a small to moderate size revision, you should only submit an amendment. Title the amendment as such, reference the existing MOA and provide the corresponding paragraph number for each change. Make out the accompanying AF Form 149, DD Form 1144, or AFMC Form 216 with the appropriate revision blocks annotated and the signature blocks left blank. If you have a large revision, the originating office should determine whether to redo the entire MOA or amend it.

Militarily Critical Technologies List

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Industrial & International Division
Office of Research and Technology Applications (ORTA), PL/XPI
(505) 846-5023; DSN 246-5023

Operations Directorate
Technical Library, PL/SUL
(505) 846-4767; DSN 246-4767

Operations Directorate
Foreign Disclosure Policy Officer (FDPO)
Intelligence Office, PL/IN
(505) 846-5014; DSN 246-5014

Operations Directorate
Laboratory OPSEC Manager
Intelligence Office, PL/INK
(505) 846-4710; DSN 246-4710

Operations Directorate
Public Affairs Office, PL/PA
(505) 846-1911; DSN 246-1911/6246

Operations Directorate
Logistics Materiel Control Activity, PL/SUMS
(505) 846-7463; DSN 246-7463

Operations Directorate
Computational Services Division, PL/SC
(505) 846-0992; DSN 246-0992

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

Edwards AFB:

Operations and Support Directorate
Technical Service Division, OL-AC PL/TS
(805) 275-5372; DSN 525-5372

Foreign Disclosure Coordinator
OL-AC PL/TSR
(805) 275-6190; DSN 525-6190
FAX: (805) 275-5739; DSN 525-5739

Operations and Support Directorate
Public Affairs Office, OL-AC PL/PA
(805) 275-5465; DSN 525-5465

Operations and Support Directorate
Material Branch, PL/TOM
(805) 275-5210; DSN 525-5210

Hanscom AFB:

Operations and Support Directorate
Technical Library, OL-AA PL/TL
(617) 377-4895; DSN 478-4895

Foreign Disclosure Coordinator
OL-AA PL/XPG
(617) 377-3608; DSN 478-3608
FAX: (617) 377-5974; DSN 478-5974

Operations and Support Directorate
History & Public Affairs, OL-AA PL/HO
(617) 377-3643; DSN 478-3643/7111

Operations and Support Directorate
Logistics Materiel Control Activity, PL/TO
(617) 377-4868; DSN 478-4868

II. OVERVIEW

The Militarily Critical Technologies List (MCTL) is a compilation of technologies considered to be sensitive by experts in a number of technical fields and subject to export control. The experts used in consolidating this list consist of a Technical Working Group (TWG) for each technology and are acquired from U.S. government agencies, contractors, and academia. Several individuals from the Phillips Laboratory are assigned to the various TWGs. The responsibility for the MCTL document lies with the Office of the Under Secretary of Defense for Acquisition and is updated every three or four years. It is provided to U.S. government agencies, defense contractors, and universities.

The MCTL is intended to be used as a guide when making the determination if technical information (in any form) and sensitive equipment is being considered for sale or transfer to foreign countries. The MCTL is

also used in determining if U.S. government technical information may be released to the public. This includes disposal of sensitive equipment and material. It should be noted that other USAF regulations and guides, as well as individuals with specific areas of expertise (i.e., Foreign Disclosure, Contracting, Scientific and Technical Information (STINFO), Operations Security (OPSEC), Public Affairs, Logistics Material Control Activity (LMCA)) are used in conjunction with the MCTL in making these determinations. The primary products of the Phillips Lab are our technical data and reports generated from research and development projects, the majority of which are sensitive and militarily critical. As such, these products, from rough draft notes, blueprints, engineering drawings and specially developed sensitive equipment to finished published documents, must be marked for the intended audience. The Project Manager makes this determination. The Project Manager will consult with STINFO to determine the appropriate markings.

III. OPRs

The below listed OPR's shall be contacted for the following circumstances:

Directorate Technical Experts: PL/XPI is the OPR to provide a listing of the technical experts associated with specific technology areas as they relate to the MCTL.

Marking Documents/Equipment: The Project Manager and the STINFO manager in PL/SUL (or PL/IMD as the alternate STINFO) are the OPRs for marking documents and providing technical advice on the Contract Data Requirements List (CDRL). The STINFO manager will provide technical guidance IAW the USAF STINFO regulations (AFR 83-3, Distribution Statements on Technical Documents, AFR 80-34, Withholding of Unclassified Technical Data from Public Disclosure, AFP 80-30, Marking Documents with Export Control and Distribution Limitation, and MIL STD-1806. If data or equipment items have been determined to be export control information, and are turned over to a contractor, the information sheet in Figure 2 should be provided to the contractor. This information sheet contains instructions for contractors on the proper of handling MCTL data or hardware.

Foreign Disclosure: The Foreign Disclosure Policy Officer (FDPO) in PL/IN is the OPR for transfer of technical information to foreign individuals, governments or industry. This includes papers to be presented at international conferences, release of software, technical reports, and contractual information.

OPSEC: The Operations Security Manager in PL/IN is the OPR for protection of technical data that is vulnerable to release via compilation of sensitive, unclassified methods associated with R&D tests, operations, and activities that reveal militarily critical data.

Public Affairs: The office of Public Affairs (PL/PA) is the OPR for USAF information that is to be released to the public. Examples include, but are not limited to, technical papers, magazine articles, papers for technical journals, conference presentations (international and national), and information released to the media. Public Affairs also reviews announcements to be placed in the Commerce Business Daily.

LMCA: PL/SUMS is the OPR for equipment control, to include monitoring and disposing of government assets. Project Managers should ensure that property turned in to LMCA is screened and all MCTL items identified and demilitarized prior to turn-in. Disposition instructions along with a point of contact should also be furnished should questions arise during the disposition process.

Contracting: PL/PK is the OPR for contracting. In order to ensure that protection, transfer, and disposal of MCTL items are integrated into all aspects of planning, programs and activities, requirements must be embedded into the contracting process.

IV. PROCEDURES

The following narrative explains the processes depicted in Figure 1.

Once a project/or research effort is pursued as an in-house project or a government

contract, a literature search must be conducted to determine if similar work has already been accomplished. The literature search is requested through PL/SUL, and a foreign scientific and technical search may be requested through PL/IN. Once this is done, the technical expert for the technology being researched must review the project to determine military criticality as defined in the MCTL. If the information has been determined to be critical per the MCTL, all related technical data must be protected from public release and written analysis of the determination sent to Public Affairs. The data will be marked in the initial draft stage and at every stage following. A distribution limitation statement may be applied at this point and then finalized when the project is near completion. The STINFO officer can assist you in assigning the proper distribution limitation statement.

In-House. If the project will be handled in-house, the work proceeds only after the above has been accomplished. Resulting information and hardware produced by the in-house effort must be marked for MCTL and distribution limitation statement control. At the end of the project, the technical expert must once again review the resulting data or hardware to identify MCTL and export control. If the Project Manager determines the data needs to be publicly released, a review by Public Affairs is required. If the Project Manager wishes to release, ship, or return as excess equipment or hardware, LMCA will process the shipment following the guidelines specified by the Project Manager. If MCTL items are to be held and advertised as excess for possible reissue as MCTL, provisions must be made by the original Project Manager to officially transfer the item to the authorized requester. If the item is not picked up after being advertised as excess the Project Manager must demilitarize the item prior to turning it in to LMCA.

Contract. MCTL/export control information must be identified up front to avoid release of critical data. If the project will be contracted out, Public Affairs must review all synopsis prior to publication in the Commerce Business Daily (CBD). Public Affairs will also review the Statement of Work (SOW) if it does not contain militarily critical information to determine if it may be released to the public. For contracts that will contain classified or unclassified/ limited distribution information, the Foreign Disclosure Office (PL/IN) reviews the synopsis prior to publication in the CBD. The purpose of this review is to determine if a foreign owned firm may be considered as the prime contractor. If the Statement of Work (SOW) contains MCTL/Export Controlled data, it will be marked accordingly and a preliminary notice must be added to the CBD announcement alerting potential bidders they will need to become certified with the Defense Logistics Services Center before the Request for Proposal will be provided to them. If the SOW has been cleared for public release, it may be provided to all potential contractors. If the SOW is cleared for public release, but the work under the contract may involve critical technology, the synopsis may include the statement which advises potential contractors they must be certified.

In most Phillips Laboratory R&D contracts, a clause concerning the protection of critical technology, (e.g., limited distribution and export control information) will be included in section H of the contract. This clause shall be included in contracts which will or may require access to export control information in performance of the SOW. If classified information is involved, additional security requirements will be identified in the DD 254.

After the contract is awarded, an ongoing review must be made by the Project Manager. Data and hardware must be marked to protect assets listed in the MCTL.

At the completion of the contract, the final product (data or hardware) will be reviewed by the technical expert.

If the Project Manager wishes to release data to the general public, a review by Public Affairs must be conducted. If the Project Manager wishes to release, ship, or return as excess equipment or supplies, LMCA will receive, process, and transfer the property to Base Supply who in turn will process the property to the Defense Reutilization and Marketing Office (DRMO) for disposition. ADPE items and hardware will be processed through PL/SC. NOTE: The Project Manager is responsible for

demilitarizing all MCTL items prior to turn-in. Neither LMCA, Base Supply or DRMO have the capability or expertise required to demilitarized MCTL, only the originator can perform the required demilitarization.

V. PROCEDURES FOR PROCESSING EQUIPMENT

Definitions

Equipment Items: Stand alone items are items that usually perform a function without being attached (installed) to another item, for example, oscilloscopes, typewriters, safes, optic tables, etc. These items are monitored on sub custodian equipment accounts and identified by LMCA assigned EMAS control numbers. All serviceable and some repairable equipment items that are turned in to LMCA are reported and advertised as excess. Excess equipment is available worldwide to any organization that has a requirement and is authorized to obtain these items. Excess property is held by LMCA for a screening period of 30 days. After this period all items are turned in to Base Supply for disposition.

Due-in From Maintenance (DIFM): DIFM items are components that have repair capability (repaired and reused). These items are issued on a one-for-one basis and tracked in Base Supply records. DIFM items turned in to LMCA are turned in immediately to Base Supply once it's determined no requirement exists within the Phillips Lab.

Expendables: Includes consumable items, such as bolts, batteries, tubing, administrative supplies, etc. These items are only accepted by LMCA if they are in unused, serviceable condition and in the correct quantity unit pack. If there is no requirement within the Phillips Lab these items are also turned in immediately to Base Supply.

Disposal

MCTL data shall be destroyed by the use of shredding or pulverizing.

Equipment will be disposed of by the following actions:

--Determine the overall condition of the item.

--Provide complete description of item(s).

--Provide appropriate condition tags.

--Prepare necessary paperwork for processing.

AF Form 601, Equipment Action Request, for all equipment items.

Contractors will prepare DD Forms 1149, Requisition and Invoice/Shipping Document, in seven copies. These forms must be signed by the Project Manager and Contracting Officer.

--Determine if the item is classified, hazardous, or a Military Critical Technology Listed (MCTL) item. Provide handling instructions along with point of contact.

--MCTL items turned in to LMCA will be handled according to instructions provided by the user/project manager.

--Property not identified as MCTL will be processed for disposition in accordance with Air Force directives.

VI. PROCEDURES FOR SHIPPING EQUIPMENT

The following actions will be accomplished for items being processed for shipment (i.e., loan agreements, donations, and transfers outside of Phillips Lab).

--If the item is on accountable records (i.e., EMAS), prepare and submit an AF Form 601.

--Prepare DD Form 1149 in seven copies and route through LMCA for control number (block 6) and signature (block 10). Ensure you indicate if the shipment does or does not contain hazardous, classified or MCTL items. Provide handling instructions and point of contact.

--The form and property must then be taken to the local base's Transportation Shipping section. At Kirtland AFB, this section is located in building 1015 on the east end.

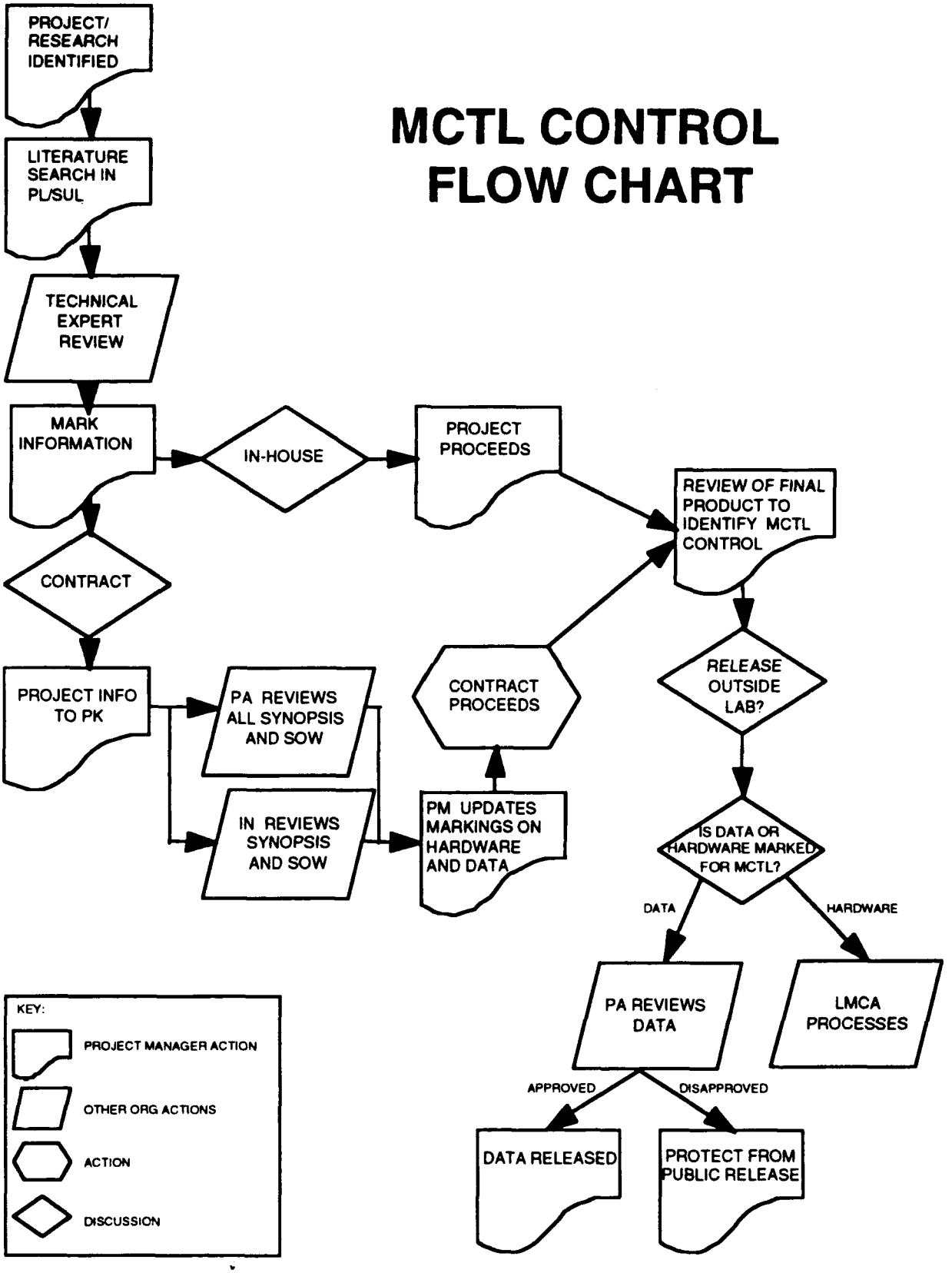

Figure 1. MCTL Control Flow Chart

NOTICE TO ACCOMPANY THE DISSEMINATION OF EXPORT-CONTROLLED TECHNICAL DATA/EQUIPMENT

1. Export of information contained herein, which includes, in some circumstances, release to foreign nationals within the United States, without first obtaining approval or license from the Department of State for items controlled by the International Traffic in Arms Regulations (ITAR), or the Department of Commerce for items controlled by the Export Administration Regulations (EAR), may constitute a violation of law.

2. Under 22 U.S.C. 2778 the penalty for unlawful export of items or information controlled under the ITAR is up to 2 years imprisonment, or a fine of $100,000, or both. Under 50 U.S.C., Appendix 2410, the penalty for unlawful export of items or information controlled under the EAR is a fine of up to $1,000,000, or five times the value of the exports, whichever is greater; or for an individual, imprisonment of up to 10 years, or a fine of up to $250,000, or both.

3. In accordance with your certification that establishes you as a "qualified U.S. contractor," unauthorized dissemination of this information/equipment is prohibited and may result in disqualification as a qualified U.S. contractor, and may be considered in determining your eligibility for future contracts with the Department of Defense.

4. The U.S. Government assumes no liability for direct patent infringement, or contributory patent infringement or misuse of technical data.

5. The U.S. Government does not warrant the adequacy, accuracy, currency, or completeness of the technical data.

6. The U.S. Government assumes no liability for loss, damage, or injury resulting from manufacture or use for any purpose of any product, article, system, or material involving reliance upon any or all technical data furnished in response to the request for technical data.

7. If the technical data furnished by the Government will be used for commercial manufacturing or other profit potential, a license for such use may be necessary. Any payments made in support of the request for data do not include or involve any license rights.

8. A copy of this notice shall be provided with any partial or complete reproduction of these data/equipment that are provided to qualified U.S. contractors (individuals, companies, universities, etc.).

Figure 2. Contractor Instructions for Handling MCTL Data or Hardware

Introduction to Financial Management

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. FINANCIAL TERMINOLOGY

The following terms have specific meanings in a financial context, so avoid using them except to describe financial status. The status of funds normally progresses in the same sequence as that in which the terms are listed. All terms refer to the government's financial status as opposed to that of the contract or contractor.

Program (Acquisition): A defined effort funded by RDT&E appropriations with the express objective of providing a new or improved capability in response to a stated mission need or deficiency. May comprise an aggregation of program elements needed to achieve the objective or plan for an individual area/function/weapon system/etc. (e.g., ABL, LEAP).

Precommitted (KAFB only): In this process you forecast for PL/PK those funds your project will need in advance of authority to cite the funds. Consider the precommitted funds on your purchase request (AFMC Form 36) as an "IOU" indicating where money will be used when it becomes available. Usually this is based on a government estimate. This action is not required if funds are available. No entry is made in the general accounting system for precommitted funds, so no record will appear in Defense Finance and Accounting Service (DFAS) reports.

Commitment: This represents a formal administrative reservation of funds. PL may need another party's concurrence before the funds can be decommitted. For example, in the case of R&D contracts, the buyer in the Contracting Office must concur. Commitment of funds does not occur until the document has been certified by the Defense Accounting Office (DAO).

Obligation: With this, the government has incurred a legal binding contract to make payments for services rendered or supplies delivered. Before obligation, an item or service can be canceled at no cost to the government other than for solicitation. Funds are normally obligated when the contract for the item or service is awarded. After contract award (contract signed by all concerned parties and distributed), cancellation will result in extra government costs. On many DFAS reports, outstanding obligations will be entitled "UOO" (undelivered orders outstanding). Travel actions are obligated when the travel order is issued.

Accrual: Normally, this is recognition before payment that delivery of the goods or services has occurred. Travel actions are posted as accruals when advance payments are made. DFAS reports may list

accruals under "accrued expenditures unpaid" (AEU).

Expenditure: It is the same as payment of funds. Many DFAS reports entitle it "accrued expenditures paid" (AEP).

Unliquidated Obligations: Although not a funds status, the term "unliquidated obligations" (ULO) is frequently used. It refers to the dollar amount which is obligated but not expended. On most DFAS reports, it is the sum of any UOO and AEU entries.

Deobligation/Decommitment: Only the contracting officer can deobligate or decommit funds on contracts. Deobligation of funds from an active contract requires a contract modification. The contracting officer decommits by amending the original AFMC Form 36 and sending it to the host DAO for action. Deobligation/decommitment may result from: 1) completion of the contract with excess funds remaining; 2) observation/notification that the funds exceed the fiscal year in which they must be used; or 3) request of the funding organization (which is performing administrative reallocation for whatever purpose). In this last case, tell or write the contracting officer or send a Form 36 amendment.

Advance Purchase Request (PR): Advance PRs may be prepared for firm requirements for the next FY before receiving procurement authorization (PA) and budget authorization (BA) or operating program for that FY. Advance PRs to initiate the next FY funds will contain the following statement:

> *"FY__ funds apply to this requirement. No obligation may be incurred until FY__ funds availability has been certified. This requirement is included in the FY__ program."*

FM will sign this statement. Make sure that the new FY fund cite (accounting classification) and JON are cited on the advance PR. Do not prepare an advance PR using funds from another agency.

Job Order Number (JON). An eight character alpha-numeric code assigned by the Laboratory to identify specific entities of work efforts and activities within the Lab. There are two types of Laboratory JONs; a Direct JON and a Memorandum JON. See WORK-UNIT PLANNING.

Reimbursable Order Number (RON). Where the JON identifies costs to specific job to be reimbursed, the RON identifies reimbursable costs to specific funding for appropriation accounting. In any funding transaction, the originator specifies what funding is to be charged. FMB assigns RONs to all reimbursable funding transactions. This RON and the JON are used by the DAO to post charges.

Supply Processing Code (SPC). The SPC (also known as unit account number or organization code) is a three-digit numeric code assigned to JONs where supplies or equipment are to be ordered through the Standard Base Supply System (SBSS) computer.

Responsibility Center/Cost Center Code (RC/CC). This six-digit code, also known as cost center code (CCC), is assigned to PL's directorates and divisions to help track expenditures. The first three digits (646) of the CCC indicate PL and the last three digits are locally assigned. At Edwards and Hanscom, contact your FM representative for your particular CCC. All documents citing funds use the code except for SBSS supply and equipment purchases. The Comptroller maintains and updates a master cost center directory.

Element of Expense Investment Code (EEIC). EEICs are up to five-character codes that identify the nature of services and items acquired for immediate consumption (expense) or capitalization (investment). For example: 408 and 409 are related to TDY expenses.

Subject Matter Area (SMA) Codes. Your local host accounting and finance office

(DFAS) responsibilities are arranged into functional groupings called Subject Matter Areas (SMAs). SMAs are closely related to EEICs but are not always a direct functional correlation. Examples of SMAs and typical EEICs can be found in the section on SPEND PLANS.

III. BUDGET AUTHORITY

The process of releasing monies for use in funding Air Force activities begins with Congressional passage of the DOD Appropriation Act. As funds pass from Congressional approval of appropriation through Office of Management and Budget (OMB) apportionment, on to the organizations that will actually expend them, their availability is bounded by limitations on the amount of funds which may be used, the purposes to which they may be applied, and the time limit of obligation.

Budget Authorizations (BAs) are issued on the basis of R-1 (RDT&E) line items in the annual Appropriation Act. Program Authorizations (PAs) provide program funding guidance and are consistent with and at the same overall line item funding level as the budget authorizations. BAs alone do not grant the authority to incur obligations. SAF/FMB must issue a Budget Authorization/Allocation which shows the total budget authorization by appropriation and also indicates how much of the appropriation has been allocated, i.e., approved for obligation.

An allocation represents an administrative subdivision of funds and as such is, according to AFR 177-16, a subdivision of an appropriation that makes funds available in a specified amount for incurring obligations, or which can be further subdivided, subject to limits in the funding documents, status, regulations, or other applicable directives.

An allocation or suballocation is used to delegate financial authority to the office responsible (e.g., PL) for making funds available for obligation. HQ AFMC distributes their allocation from SAF/FMB by issuing suballocations or allotments down to the appropriate field units such as PL. Field units receiving suballocations must issue allotments if they wish to further subdivide the funding received. Allotments may be further subdivided into suballotments with SAF/FMB authorization only.

IV. FUNDS CONTROL

The Air Force is required by law (Title 31 of the United States Code) to establish a system for administrative control of appropriations and other funds, which restricts obligations and expenditures to the amounts and purposes authorized.

Air Force systems for administrative control of funds are integrated with accounting systems in accordance with AFR 177-101. These systems provide current data on the status of funds where transactions actually occur and the capability to determine fund availability before authorizing or incurring obligations. The administrative subdivisions described above are a part of the funds control process. The available amount of each subdivision is a limit on obligations and expenditures which must not be exceeded.

Within Phillips Lab, Budget Authorization/Suballocations (BA/SA) are received by PL/FM typically at the PE level. They send a notification to the host DAO and to the PL Program Integration Division (PL/XPP) of the amounts received.

XPP, in turn, notifies the XP 3-letters that funds have been received and that they need to confirm or identify the BPAC distribution by Directorate based on the PE amount received. Usually, for funding that PL receives annually, the distribution is consistent with the funding allocations coordinated earlier between XP, FM and the Directors, unless changes have occurred during the Congressional Appropriation cycle. Upon receipt of the XP 3-letter inputs, XPP forwards the BPAC/Directorate distribution back to FM.

The budget analysts in FM send a programming letter to the DAO requesting the BPAC by Directorate (i.e., Cost Center) funding levels be entered into the host base accounting system. The DAO will not enter the PE total into the system until they receive this breakdown of specific BPAC levels and limitations.

Increases or decreases to the original BA/SA are processed in the same manner. Funding received from other government agencies (i.e., MIPRs, POs, PDs, etc.) is also handled in a similar fashion.

While the DAO records the funding data into the accounting system at PE, BPAC and Directorate levels, they control obligations to the BPAC level only. Any over-obligation at the Directorate or BPAC level must be reconciled by the responsible FM budget analyst. When this occurs, the Project Manager must either redo the funding documents that caused the overage with a proper fund citation or must get a realignment of funds in accordance with the unfunded requirement procedures detailed in the section on PROGRAMMING/ REPROGRAMMING.

V. FINANCIAL RESTRICTIONS

Three basic legal restrictions apply to the use and application of appropriated funds. These restrictions cover the parameters of time, purpose, and amount and are briefly discussed below. If you require additional detail on any of these restrictions, contact PL/FM or 377 ABW/JAN.

Time. The bona fide need rule states that the requirements of a specific fiscal year must be funded only with appropriations enacted for obligation in that year. Application of the bona fide need rule to services contracts depends on whether the services (including R&D efforts) are "entire" or "severable". If a service contract is "entire", the total cost is charged to the fiscal year in which the contract is made even though services are performed during a subsequent fiscal year as well. If services are "severable", they are charged to the appropriation available when they are rendered.

Purpose. The propriety of funding provision of appropriations law requires that the purpose of an expenditure must be one which is authorized by an appropriation made by Congress. Basically RDT&E funds support the decision process used to determine what weapon system will satisfy Air Force operational requirements. RDT&E funds are put to two basic uses 1) the mission program covers work performed under contract with private or government entities, and 2) the management and support program includes operations and maintenance of the Laboratory.

Amount. The Anti-Deficiency Act states that amounts appropriated by Congress for general or specific purposes may not be exceeded through commitment, obligation or expenditure action.

Most appropriations are made available for specific periods of time. When an appropriation is available until a specified date, or for a definite length of time, the general rule is that the availability relates to the authority to obligate the appropriation, and does not necessarily prohibit payments after the available date for obligations which were previously incurred. The majority of the funding received by PL is in the RDT&E or 3600 appropriation. This appropriation is known as a two-year appropriation because the funds are available for obligation for two years. However, certain restrictions apply to the use of funds in the second year of the appropriation, such as payroll, travel, supplies, etc.

BMDO funds are considered one year appropriations by BMDO and must be obligated in the fiscal year they are issued. In some instances, BMDO may issue a waiver, on a case-by-case basis, to use these funds in the second year.

The availability of appropriations may further be classified as active, expired or canceled. An appropriation with current, active status is available for obligation and

disbursement. An expired appropriation is available for disbursement and adjustments, but not for new obligation. Expired appropriations are closed at the end of the fifth FY following expiration; and all obligated or unobligated balances are canceled. Any bills received after this has occurred will be paid from current year appropriations.

Use of the Management and Support Funds

HQ AFMC provides the Laboratory funds for exploratory development in three PEs: 62101F, 62302F, and 62601F. Within these PEs are the Management and Support funds (BPAC 6106XX) to support the operation and maintenance of the Laboratory. These include civilian salaries and administrative support (TDY, printing, maintenance, minor construction, and supplies) which cannot be identified to a specific project or program. Direct costs of a project or program must be financed with mission funds furnished for that effort.

Since the 06XX account funds civilian salaries up-front, project funds must reimburse these funds through the Job Order Cost Accounting System (JOCAS). The same applies to other charges, such as bench stock, imprest funds, fuels, etc.

Note: In FY95, when the Free Market model is implemented the 06XX funds will be replaced with an "06 type" carrier account. See the chapter on SPEND PLANS.

VI. INCREMENTAL FUNDING POLICY

Congress has prescribed the incremental funding policy for RDT&E funds. Under this policy, only funds required to accomplish work, and provide for related costs incurred in the first fiscal year of the appropriation's availability (the budget year), are included in the budget request for that fiscal year. Congress then authorizes and appropriates RDT&E funds for the specific "increments" of work to be accomplished during the fiscal year for which the funds were requested.

Since RDT&E funds are available for new obligations for a period of two years, the negative effects on program execution of any legal, administrative, or technical delays in starting an annual increment of work can be minimized by allowing execution to flow into the second year of availability. However, a word of caution--if a high percentage of funds remain unobligated, they are subject to being withdrawn.

Waivers for deviation from incremental funding policy are no longer required.

When considering what is a legitimate cost of the first fiscal year, performance is not measured by obligations, but rather in terms of "cost" incurred. Such costs include wages paid or earned, material consumed, and liabilities created for long lead-time orders and subcontracts. This policy applies to all RDT&E effort including outgoing funding documents (MIPRs, PDs, POs, etc.) to other government agencies.

In spite of the ability to deviate from incremental funding in certain circumstance, RDT&E effort should be planned and programmed on a FY basis with deviations kept to a minimum. Deviations can be avoided by reapplying the funds that are excess for that FY's effort to requirements in other projects.

VII. ACCOUNTING SYSTEMS

Appropriation Accounting

The Air Force accounts for funds under the Appropriations Accounting System. This system simply requires that all funds be accounted for against the funding document that transmitted the funds, and the agency responsible for issuing the funding document be advised of the status of funds. The host DFAS accounts for our funds at each location. We must ensure that a Job Order Number (JON) and a Reimbursable Order Number (RON) are on all funding documents to track funds to the work-unit and directorate.

Job Order Cost Accounting System (JOCAS)

In the 1960s, the Office of the Secretary of Defense directed that the Air Force develop and implement a cost accounting system to provide a reliable basis for cost reimbursement by AF test range users. JOCAS was subsequently applied in 1971 to all test and evaluation centers, ranges and laboratories. The original system has recently been replaced by a newer and more user friendly system, known as JOCAS II.

Job order cost accounting is that part of an accounting system devised to measure and assemble identifiable elements of cost incurred in accomplishing a specific purpose, carrying on an activity or operation, or completing a unit of work or a specific job. The JOCAS identifies costs for direct labor, direct materials, and various indirect and/or overhead costs The basic accounting period of the JOCAS is a calendar month.

A job order is an approved authorization to perform mission work. A job order is an account established by an organization to accumulate individual labor hours and costs, overhead labor hours and costs, investment costs, and civilian leave used. It is also used to gather actual costs and labor hours for the purpose of creating unit cost price list for homogeneous products and services. Two types of job order numbers are available for coding purposes: the direct job order number and the memorandum job order number. The direct job order number is a code assigned to identify a specific work effort within an organization. Memorandum job order numbers are assigned to miscellaneous accounts where costs cannot be directly associated with a direct work effort or task, such as management/supervision, administration, and leave.

An accounting entity is a specific unit implementing an economic activity requiring accounting. The accounting entity normally consists of the organizational activity operating the system along with activities under its control such as a laboratory and all of its divisions. Those activities which contribute to the cost of a job, directly or indirectly, should be included as part of the accounting entity.

Cost centers within an organization are classified as either direct or support. The principal responsibility of direct cost centers is the actual performance of a given mission or end product production. A direct cost center reports its time and all direct costs as applicable to specific job orders. The principal function of support cost centers is to support or assist the commander and direct cost centers in the performance of their mission. These activities are not directly related to any specific mission job. Examples include management/supervision and administration such as typing, filing, career counseling, and review of personnel records. Support costs also include technical support such as supply, safety, and training. A support cost center can charge labor hours and direct costs if they can be identified directly to a specific mission job.

JOCAS II collects and maintains an accurate job order cost accounting information database from which users can produce reliable and timely management reports. Other notable characteristics of JOCAS II are:

--Provides faster, easier data access, processing, and reporting than previous systems. Interactive, real-time access to an on-line database gives users more timely information.

--Interfaces to other automated systems provide automated input of data collected by those systems.

--Tracks costs to individual job order numbers and cost centers, and provides a detailed accounting of costs with special emphasis on reimbursable costs.

--Tracks costs and cost summaries back to their original points of input, providing a complete audit trail for all cost accounting data.

--Tracks the cost of providing products and services. The system provides several tools for managers to monitor accrued costs and maintain rates charged for products and services.

--Provides a job order number (JON) cost estimate capability. Managers can create and maintain JON estimates using a variety of advanced features. JONs can be structured with estimates and actual costs tracked by work breakdown structure.

--Provides cost information in a variety of standard, preformatted reports. It also provides users with the capability of generating custom designed, ad hoc reports. Users can tailor reports to suit their needs and save their custom formats for future use.

Examples of Accounting Codes. Figure 1 provides examples of the coding structures for various accounting classifications. The letter below each component refers to the legend.

Use of Identifier Codes. All documents that cite funds carry a JON, CCC, and RON, (if reimbursed through JOCAS) except supply and equipment requisitions which show the appropriate SPC.

For R&D Contracts

57/3/3600 29/3 47/35 613326 000000 0588E 62601F 662300 F62300
A B C D E F G H I N K L M

For Project Orders

57/3/3600 29/3 47/35 613326 646110 592 662300 33260101
A B C D E F G H Q N L P

For Contractual Service Documents (using the reimbursement appropriation)

57/3/3600 29/3 47/35 691999 646220 592 662300 921A0101 BM3
A B C D E F G H Q N L P O

For Documents Citing 06XX Funds

57/3/3600 29/3 47/35 6106WL 646CC0 592 62601F 662300 999300CC
A B C D E F G H Q N K L P

LEGEND

A - Department (57 = Air Force)
B - Last digit of FY of Appropriation
C - Appropriation Symbol (3600 = RDT&E)
D - Fund Code (Compatible to Appropriation Symbol)
E - Last digit of FY of Appropriation
F - Operating Agency (OAC) (47 = AFMC)
G - Allotment Serial Number (ASN) (35= PL-K; C3=PL-E; C2=PL-H)
H - Budget Program/Activity Code (BPAC) (last 4 characters = project/program)
I - Materiel Program Code (MPC)
K - Program Element (PE)
L - Accounting and Disbursing Station (662300 = Kirtland AFB)
M - DOD Address Code (F62300 = Kirtland AFB)
N - Element of Expense/Investment Code (EEIC)
O - Reimbursable Order Number (RON)
P - Job Order Number (JON)
Q - Responsibility Center/Cost Center Code (CCC)

Figure 1. Examples of Accounting Codes

Laboratory Program Structure

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

II. APPROPRIATIONS

Funds for Air Force operations are made available from Congress through a variety of appropriations. These include Research, Development, Test, and Evaluation (RDT&E) (3600), Aircraft Procurement (3010), Missile Procurement (3020), Other Procurement (3080), Operations and Maintenance (O&M) (3400), Military Construction (MILCON) (3300), and Military Personnel (MILPERS) (3500).

Funds are apportioned to the product centers, laboratories, and test centers through a Budget Authority/Sub-allocation (BA). They are released by appropriation, Program Element Code, and in most cases Budget Program Activity Code (BPAC) or Program Management Agreement (PMA). The following paragraphs will discuss this structure in more detail.

III. MAJOR FORCE PROGRAM (MFP)

Major Force Programs are functional divisions of the DOD program and budget used by Congress. They represent an aggregate of Program Elements (PEs) that reflect a force mission or a support mission of DOD and contains the resources needed to achieve an objective or plan. MFPs cross Service lines. Figure 1 provides a list of the eleven MFPs which currently exist. The first five and the last (Programs 1 through 5 and 11) are force related (independent) and the other five (Programs 6 through 10) are support (dependent). The independent, force-related programs provide visibility to OSD and Congress on the size and magnitude of these programs. The support programs are dependent upon the size and character of the force programs.

IV. PROGRAM ELEMENTS

As discussed above, MFPs are subdivided into program elements (PEs). The PE is an element of the DOD Future Years Defense Program (FYDP) representing a combination of personnel, equipment, and facilities which constitutes a specific military capability or support activity.

A Program Element is a six digit code that identifies a specific mission within the MFP structure and is the basic building block of the Future Years Defense Program (FYDP). A program will have a program element that is used in all financial transactions. It is similar to your checking account number in

1. Strategic Forces
2. General Purpose Forces
3. Intelligence and Communications
4. Airlift and Sealift
5. Guard and Reserve Forces
6. Research and Development
7. Central Supply and Maintenance
8. Training, Medical, Other Personnel Activities
9. Administration and Associated Activities
10. Support of Other Nations
11. Special Operations Forces

Figure 1. DoD Major Force Programs.

that it identifies the funds belonging to a specific program. Some program elements will have more than one program, but each of the programs will perform the same mission. Figure 2 provides an example of how a program element is structured for an R&D program.

PEs are used throughout DOD. At this level, the PE is the smallest cost collection unit by which costs are collected, summarized, and subsequently grouped by MFP. This allows actual performance to be measured against programs so DOD managers can make budget decisions.

V. R&D CATEGORIES

The R&D Program (MFP 6) is divided into five program categories. Each category is identified by the first two digits of the PE number, according to AFR 80-1. Specifically they are: 6.1, Research; 6.2, Exploratory Development; 6.3, Advanced Development; 6.4, Engineering Development; 6.5, Management and Support. Operational System Development, not a designated category in MFP 6, is considered part of RDT&E since that effort is funded in RDT&E appropriations, but in MFPs other than Program 6. Efforts pursued in the categories include:

Research (6.1). Scientific study and experimentation directed toward increasing knowledge and understanding in the physical, engineering, environmental, biological-medical, and behavioral-social sciences directly related to explicitly stated long-term national security needs. It

Program	6	Research & Development (MFP 6)
R&D Category	1	Research
	2	Exploratory Development
	3	Advanced Development
	4	Engineering Development
	5	Management and Support
	6	Operational Systems Development
R&D Commodity Area (applicable to MFP 6 only)	1	Research (Military Sciences)
	2	Aircraft and Related Equipment
	3	Missiles and Related Equipment
	4	Military Astronautics
	5	Ships and Small Craft
	6	Ordnance and Combat Vehicles
	7	Other Equipment
	8	Management and Support
Program Identifier	XX	Serial Identification Number
Component	A	Department of the Army
	C	Ballistic Missile Defense Organization
	D	Office of the Secretary of Defense
	E	Defense Advanced Research Projects Agency
	F	Department of the Air Force
	H	Defense Nuclear Agency
	N	Department of the Navy
Example	62601F	PL's Advanced Weapons and Survivability PE

Figure 2. Illustration of the MFP 6 Program Element Structure (R&D)

provides fundamental knowledge for the solution of identified military problems. It also provides part of the base for subsequent exploratory and advanced developments in defense-related technologies and for new or improved military capabilities in all functional areas.

Exploratory Development (6.2). A formal effort, ranging from fundamental applied research to sophisticated bread-boarded experiments, to solve a specific military problem. It includes studies, investigations, planning, programming, and minor development efforts. It is designed to develop and evaluate the feasibility and practicability of proposed solutions and determine their parameters.

Advanced Development (6.3). Projects that have moved into the development of hardware for experimental or operational test. The design of such items is directed toward hardware for test or experimentation. They include investigative and analytical development planning efforts contributing to technology guidance. The 6.3A category is comprised of nonsystem advanced technology demonstrations. The 6.3B category is system development.

Engineering Development (6.4). These are development programs that are engineered for military use but are not yet approved for acquisition or operation. This effort is equivalent to the full-scale engineering development phase of the system acquisition life cycle. These programs are characterized by major line item projects. Also included are operational support projects consisting of numerous small individual items, not integral to a major project, that are being engineered for military use.

Management and Support (6.5). RDT&E effort directed toward support of installations or operations required for general RDT&E use. Examples are: test centers, military construction, maintenance of test aircraft and ships, and Small Business Innovative Research (SBIR).

Operational System Development. This category includes RDT&E efforts directed toward the development, engineering and test of systems, support programs, vehicles, and weapons that have been approved for production and Service employment. They are major line item projects which appear as RDT&E costs of weapon system program elements in other force related MFPs (not MFP 6) of the FYDP.

R&D Commodity Areas. For Research and Development (MFP 6) PEs only, the third position formerly represented the budget activity. However several years ago this practice was discontinued and separate Budget Program Activity Codes (BPAC) were established (see BPAC below). Currently, the third position of the PE identifies commodity areas which are subdivisions of the R&D Category. The third position combines with the fourth and fifth position to form the serial identification number.

VI. BUDGET PROGRAM ACTIVITY CODES (BPAC)

The Budget Program Activity Code (BPAC) is a six-digit alphanumeric code established for classification below the appropriation level to identify major budget programs and activities. The BPAC is applicable to the procurement and the RDT&E appropriations only. The RDT&E Budget Programs are listed below. The BPAC is completed when the appropriate project number is substituted for the 0000.

61 0000	Technology Base
62 0000	Advanced Tech. Development
63 0000	Strategic Programs
64 0000	Tactical Programs
65 0000	Intell. and Comm. Development
66 0000	Defense-Wide Mission Support

The combination of a 6.3 PE with a 62 0000 BPAC is known as a 6.3A program and considered a technology base program. 6.3 PEs with a BPAC of 63 0000 or greater are considered 6.3B programs and are related to system development.

VII. BALLISTIC MISSILE DEFENSE FUNDING STRUCTURE

Since PL receives a large amount of Ballistic Missile Defense Organization (BMDO) funding, it's important to understand the BMDO program structure as well.

BMDO has its own separate component identifier, C, at the end of program element as illustrated in Figure 2. At the time this handbook was written, BMDO funding was programmed into the following six PEs and their titles:

63214C	Advanced Interceptor Tech (AIT)
63215C	Limited Defense Systems (LDS)
63216C	Theatre Missile Defense (TMD)
63217C	Follow-on Technology (FOT)
63218C	Research and Support (R&S)

BMDO program elements are further subdivided into Program Management Agreements (PMAs). PMAs are four-digit codes representing the work breakdown structure (WBS) for BMDO. The first two digits of the PMA equate to the first two WBS levels and are summarized below.

1.0 Technologies
- 1.1 Sensor Technologies
- 1.2 Interceptor Technologies
- 1.3 Directed Energy Tech.
- 1.4 BM/C3 Technologies
- 1.5 Key Technologies
- 1.6 Innovative Technologies
- 1.7 Test Operations

2.0 Elements (2.1- 2.3 include numerous systems/subsystems)

3.0 Space Defense Systems (SDS) Integration & Support
- 3.1 Systems Engineering
- 3.2 Systems Analysis
- 3.3 Test and Evaluation

4.0 Management
- 4.1 Program Management
- 4.2 Engineering Management
- 4.3 Technology Management
- 4.4 Project Management

The third and fourth digits complete the PMA identification based on the Level 3 WBS. If you desire additional information regarding specific Level 3 WBS tasks, contact PL/XPP.

PMAs are further subdivided into tasks and are represented by a two-digit code following the PMA. The task number is a sequential number established by BMDO. The combination of PMA and task is comparable to the six-digit BPAC. Figure 3 provides an example of the PMA WBS structure.

Level 1 WBS	1	Technologies
Level 2 WBS	1	Sensor Technologies
Level 3 WBS	01	Passive Sensors
PMA	1101	Passive Sensors Subsystems
PMA Task	110101	Infrared Focal Plane Technology

Figure 3. Program Management Agreement (PMA) WBS Example

Funding Documents

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

II. OVERVIEW

This section introduces the Project Manager to many of the financial forms encountered in the administration of a project. Provided is a quick overview of the types of funding documents available to accomplish your funding objective. Please ensure you complete your required forms according to the samples provided in this section. Failure to comply with these samples could delay your funding transaction and ultimately the receipt of the goods or services you are requesting.

III. POLICY - SIGNATURE AUTHORITY

The following signature authority policy applies to funding documents at all locations. All funding documents require a minimum of two signatures: the Requesting Official or Project Manager, and the Approving Official.

The Approving Official is determined by the following criteria:

--All funding requests of $25M or greater, must be approved by the Commander or PL Executive Director.

--All funding requests of $10M or greater (but less than $25M), must be approved by the 2-Ltr Director or Deputy Director of the Project Manager's directorate. Directors may delegate approval authority to subordinate levels for less than $10M funding requests. Funding requests that incrementally fund an effort or contract of $10M, but do not change the face value of a contract do not require Director approval.

--A funding request (basic or amendment which causes the total amount of the effort or contract to reach or exceed $10M, must be approved by the 2-Ltr Director or Deputy Director.

--A funding request (basic or amendment which causes the amount of the effort or contract to increase by 20% or more above the amount already approved by the Director, must be approved by the 2-Ltr Director or Deputy Director.

--All new efforts (includes RFPs, Sole Source, PRDAs, BAAs, etc.): All document packages regardless of contract value must be approved by the 2-Ltr Director or Deputy Director.

IV. TYPES OF FUNDING DOCUMENTS

Purchase Request (AFMC Form 36)

A Purchase Request (PR) is used to fund a contract for R&D support, including equipment, supplies, or services as part of an approved acquisition program.

A commitment is normally recorded in the accounting system when the PR is certified by the Defense Accounting Office (DAO).

The obligation occurs when the contract or modification is awarded by the procurement activity and is based on the effective date of the contract or modification. The obligation is subsequently recorded in the accounting system by the DAO.

An Advance Purchase Request is prepared when firm requirements for the next fiscal year exist, but before the budget authorization is received. No commitment

or obligation occurs until funds availability has been certified.

A sample of a PR is shown in Figure 1.

Request for Purchase (AF Form 9)

The Request for Purchase (commonly called a Form 9) is used for the local purchase of supplies and services through contracting, civil engineering, chief of services, or transportation offices.

This form is limited to the procurement of items or services that are not available through the base supply channels.

After verification of funds by FM, the document is forwarded to the appropriate office for a control number.

A commitment is recorded in the accounting system when the DAO certifies the Form 9 prior to sending to contracting.

Obligation occurs when the purchase order is awarded by the contracting activity. The obligation is subsequently recorded in the accounting system by the DAO.

A sample of Form 9 is shown in Figure 2.

Project Order (AF Form 185)

A Project Order (PO) is used by Air Force activities to place orders with other Air Force or government-owned-and-operated (GOGO) activities within and outside the DOD for efforts performed in their facilities (i.e., In-House) on a reimbursable basis. Similar to commercial contracts. The work and terms of the PO must be definite and specific.

Funds become committed when the document is sent to the DAO. Funds become obligated when the receiving/ performing activity accepts the PO and returns the document to PL/FM who in turn forwards to the DAO for posting.

A sample PO is shown in Figure 3.

Military Interdepartmental Purchase Request (DD Form 448 and 448-2)

The Military Interdepartmental Purchase Request (MIPR) is the primary document used by the military services for ordering goods or services from other DOD components.

MIPRs are accepted on DD Form 448-2, MIPR Acceptance, as either reimbursable (Category I) for in-house support or direct cite (Category II) for contractual efforts or both.

Commitment, obligation, and expenditure timing depends on how the MIPR is accepted.

A request for goods or services that will ultimately be performed by a non-DOD contractor or FFRDC requires that the Project Manager prepare a Determination of Findings (D&F), signed by the Procuring Contracting Officer (PCO) before FM forwards the request to their servicing organization. The D&F must address why the FFRDC is uniquely qualified to perform the effort. The D&F will be supported by documentation that shows why the Project Manager decided the action cannot be provided as conveniently or cheaply by another commercial contractor. Actions exceeding $100,000 will be reviewed by the cognizant legal office. Additionally, the Small Business Advisor will review the action if it is to be performed by an FFRDC.

Samples of a DD Form 448 and 448-2 are shown in Figures 4 and 5.

Procurement Directive (AF Form 830)

The Procurement Directive (PD) is used to transfer project funding to another Air Force activity for use on their contract.

The PD is not a substitute for a PR, MIPR, or PO.

A commitment is recorded when it is coordinated through the DAO.

Obligation occurs when the contract or modification is awarded by the contracting activity. The obligation document must be forwarded to the DAO that certified the PD so that the obligation can be recorded in the local accounting records.

A sample of a PD is shown in Figure 6.

Fund Cite Authorization (AF Form 616)

The Fund Cite Authorization (FCA) is used for specific purpose or task, specific amount, and definite time frame.

An FCA may be issued to base activities, tenant organization, geographically separated units or operating locations, and activities providing support services for transportation, travel, education, other services, or non stock fund supplies.

The FCA represents a commitment of funds and is recorded as such in the accounting system.

Obligation occurs when the contract, modification, purchase order, TDY order is issued. Obligation is recorded in the accounting records when the individual administering the FCA submits obligating documents to the issuing activity's DAO.

A sample of an FCA is shown in Figure 7.

V. TYPICAL DOCUMENT PROCESS FLOW

Figure 8 provides a typical process flow of each of these documents from the initiating directorate to obligation of the funds cited.

ALL FUNDING DOCUMENTS MUST FLOW FROM THE PROJECT MANAGER TO THE FM OFFICE BEFORE THE DOCUMENT LEAVES THE LABORATORY.

Funding documents are processed on a fiscal year basis and usually contain only one accounting classification (Form 36 can contain multiple accounting classifications); therefore each FY's increment of funding will be on a separately numbered document as would each funding source used during any one FY. Except for funds transferred within DOD, if the support includes both in-house and contractual efforts, two funding documents should be provided: one for the in-house effort and one for the contractual effort. When using more than one funding document for a single job, make sure to cross reference one another to help in tracking.

VI. FUNDING TRANSACTIONS FOR SUPPLIES AND EQUIPMENT

Supplies Supporting Projects

These supplies are purchased with Air Force Stock Funds through the standard base supply computer and are charged to our Laboratory Support funds (06XX) or the Reimbursable Account (691999) upon establishment of an issue or due-out. Project funds will not be charged while in due-out status, so Project Managers must keep track of their orders and pending obligations. Issues will be charged to project funds after the JOCAS reimbursements for that month have been processed. Project Managers must ask their budget analyst in FM to establish a Supply Processing Code (SPC) also known as an Organization Code (Org Code) and to target the projected funds in the Subject Matter Area (SMA) for supplies. This will be SMA Z3. Once the SPC is established and the target entered by Accounting and Finance, you may submit a DD Form 1348-6, DOD Single Line Item Requisition System Document (Manual-Long Form), or an AF Form 2005, Issue/Turn In Request through PL/SUMS. PL/SUMS is commonly known as Logistics Material Control Activity (LMCA). Your funds are committed and obligated upon issue or the establishment of a due-out. A surcharge of approximately 8.6% is added to the items processed through the Base Supply system. LMCA produces a Customer Training Guide to help you in this area, offering samples of the DD Form 1348-6, AF Form 2005, and AF Form 9. Copies of this Guide may be obtained by calling LMCA at 846-7464.

Obligation occurs when the contract or modification is awarded by the contracting activity. The obligation document must be forwarded to the DAO that certified the PD so that the obligation can be recorded in the local accounting records.

A sample of a PD is shown in Figure 6.

Fund Cite Authorization (AF Form 616)

The Fund Cite Authorization (FCA) is used for specific purpose or task, specific amount, and definite time frame.

An FCA may be issued to base activities, tenant organization, geographically separated units or operating locations, and activities providing support services for transportation, travel, education, other services, or non stock fund supplies.

The FCA represents a commitment of funds and is recorded as such in the accounting system.

Obligation occurs when the contract, modification, purchase order, TDY order is issued. Obligation is recorded in the accounting records when the individual administering the FCA submits obligating documents to the issuing activity's DAO.

A sample of an FCA is shown in Figure 7.

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Figure 8 provides a typical process flow of each of these documents from the initiating directorate to obligation of the funds cited.

ALL FUNDING DOCUMENTS MUST FLOW FROM THE PROJECT MANAGER TO THE FM OFFICE BEFORE THE DOCUMENT LEAVES THE LABORATORY.

Funding documents are processed on a fiscal year basis and usually contain only one accounting classification (Form 36 can contain multiple accounting classifications); therefore each FY's increment of funding will be on a separately numbered document as would each funding source used during any one FY. Except for funds transferred within DOD, if the support includes both in-house and contractual efforts, two funding documents should be provided: one for the in-house effort and one for the contractual effort. When using more than one funding document for a single job, make sure to cross reference one another to help in tracking.

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Request for Purchase

When an AF Form 9 is used to request supplies or equipment, it should be coordinated through FM to ensure that the correct fund cite is annotated on the form. Your funds become committed when you process the document through Accounting and Finance and become obligated when the buyer places your order with the manufacturer or agency furnishing the item(s). Funds to cover these purchases come out of the Subject Matter Area S.

DD Form 1149

Requisition and Invoice/Shipping Document. When using this form to ship items, the document must be processed through LMCA. Your funds are committed when the document is processed through finance and are obligated when shipment is prepared by the Shipping and Receiving Section of Base Supply.

Bench Stock Items

Funds for items from LMCA bench stock are reserved at the time drawn. Your funds are committed and obligated in the accounting records on the AFMC Form 277. Expenditures occur after the JOCAS has been processed for that month. You must submit a listing, to LMCA, of personnel authorized to use your JON when shopping in Bench Stock. LMCA will issue Bench Stock cards to authorized individuals.

Equipment Items, Unit Cost Less than $15,000

Order these on AF Form 601, Equipment Action Request. DD Form 1348-6, DOD Single Line Item Requisition System Document (Manual-Long Form), must be attached. The division or branch Equipment Review Approval Activity (ERAA) approves and forwards it to LMCA in compliance with AFMCR 67-8. Project funds are cited on AF Form 601. However, since LMCA is the primary custodian for all equipment items in PL, the item is bought with Laboratory support funds (06XX) initially. If the item is in stock, it is issued and LMCA submits a request to FM for reimbursement to the 06XX account through JOCAS. If the item is not in stock, it becomes a due-out. As soon as a forecast delivery date and the dollar value is established, LMCA submits a reimbursement list to FM for reimbursement to 06XX through JOCAS. Your funds are not obligated until JOCAS has been processed for that month. Base supply's acceptance of your request obligates funds. If LMCA orders your equipment using direct procurement procedures, with an AF Form 9, your project funds are used and are not obligated until base contracting awards the contract.

Equipment Items, Unit Cost Over $15,000

Order these on AF Form 601 directly citing project funds and forward to LMCA. Project funds are obligated when the purchase order is signed by Contracting. Fund cites must be included on the Form 1348-6 or Form 9.

For Edwards AFB personnel, the following funding transactions apply:

The LMCA Supply Office (PL/TOMA) processes orders for supplies, equipment and maintenance service contracts from all JONs. Bench stock and standard base supply issues are ordered and initially procured out of BPAC 6106RL, the Laboratory operations budget account. These issues are charged to projects based on JOCAS billings which are produced four to six weeks after the end of the month in which they were purchased. Locally the spend plan loads the specific portion of the projects budget, SMA:Z, into computer database called Funds Status Summary Report, (FSSR), and is accessed by the supply office each time a project has a requirement for equipment, supplies, or maintenance service needs. The allocation balance is checked for funds availability, decreased by the estimated purchase amount at the time of initiation, and adjusted at the time of actual delivery and or obligation. Purchases made through the imprest fund and LMCA Credit Cards are

handled in the same manner, the billings for the purchases occurring through the JOCAS billing process.

Buys that meet the requirements for purchase via Standard Form (SF) 44's, blanket purchase agreements, and or special requests handled by AFFTC (Air Force Flight Test Center) PK via an AF Form 9, Purchase Request, are processed by OLAC PL/TOMA or LMCA Office in much the same way. That is, the JON allocation is checked in the computer for funds availability, decreased at the time of initiation and later adjusted for actual costs. However, these purchases are direct cited to mission BPACs and immediately billed to the projects funded by PE's 61101F, 61102F, 62302F and 63302F.

The JOCAS billings are only generated for those purchases made by projects funded from BMDO PE's and/or those PE's residing outside the local OLAC PL PE's that are received on a direct budget authority document.

PURCHASE REQUEST

(Central Procurement and Research Development Test and Evaluation)

PAGE	OF	PAGES
1		1

1. PROC ACTY	2. TYPE PR	3. PRIORITY	4. PREPARED	5. PURCHASE REQUEST NUMBER	6. AMENDMENT NO.
F29601	11	R	ar 94	FY3592-93-10301	29

7. CODES
WSP

ITEM NO. A	DESCRIPTION B	AMC/ AMSC C	QUANTITY D	UNIT E	EST UNIT PRICE F	EST TOTAL PRICE G
0001	Advanced Weapons & Surv Support FUNDING HISTORY OF CONTRACT F29601-93-C-0200 Contract JON: 2301DPAC		00	01	ea	NC
		Pre-Commit			Commit	
	PR 3592-93-10301-00 to 23	$17,134,601			$2,465,399	
	This Action	+ 146,027			+ 146,027	
	New Total	$16,988,574			$2,611,426	

9. TOTAL NC

10. ITEM NO. A	REQ DES B	DELIVERY SCHEDULE C	11. SHIP TO A (1)	MARK FOR A (2)	MILSTRIP DATA B

12. REMARKS

a. Initiate and commit the following to this contract:

Amount	FY	PE	BPAC	CCC	JON	CLIN
$146,027	94	61102F	612301	646570	2301DPAC	0002

b. Contractor: Maxwell Labs, Inc

c. Allocation: Incrementally, fund CLIN2

13. ITEM NO. A	B. ACCOUNTING CLASSIFICATION / SUPPLEMENTAL ACCOUNTING CLASSIFICATION										
	APPROPRIATION (1)	LIMIT	FC/Y (2)	OAC/ASN (3)	BPAC/RCCC (4)	MPC (5)	EEIC (6)	PROG ELEM (7)	ADSN (8)	CPN (9)	
	5743600		294	47DH	612301	000000	0588E	61102F	662300	F62300	$146,027

14. APPROVALS

A. PREPARED BY	C.	E.
JAMES H. DEGNAN, GS-14 Senior Scientist High Energy Plasma Div	F. MARK LEHR, GS-12 ACOR High Energy Plasma Div	
ALLEN L. CHESLEY, Maj, USAF Chief, PL/WSP High Energy Plasma Div	D. JENNIE MURILLO Budget Analyst Financial Mgmt Br	F.

AFMC FORM 36, FEB 93

REPLACES AFMC FORM 36, JUL 92 WHICH IS OBSOLETE

Figure 1. Sample Purchase Request, AFMC Form 36

REQUEST FOR PURCHASE

NO. F3sc01 32180200

INSTALLATION: Kirtland AFB NM 87117-5776

DATE: 16 Jul 93

TO: CONTRACTING OFFICER: PL/PK

CLASS: 2025

THROUGH: PL/FMB, PL/SCPM/, 377 CPTS/FMFC

CONTRACT, PURCHASE ORDER OR DELIVERY ORDER NO.:

FROM: (Insert RC/CC, if applicable) PL/WSH Bldg 911

IT IS REQUESTED THAT THE SUPPLIES AND SERVICES ENUMERATED BELOW AND IN THE ATTACHED LIST, BE

PURCHASED FOR: PL/WSH

FOR DELIVERY TO: Bldg. 1010 LMCA, KAFB NM 87117-5776

NOT LATER THAN: 243

ITEM	DESCRIPTION OF MATERIAL OR SERVICES TO BE PURCHASED	QUANTITY	UNIT	ESTIMATED UNIT PRICE	ESTIMATED TOTAL COST
1 0200	Description of System: 486DX2/66 MHz INTEL w/256K CACHE w /8MB RAM expandable to 128 MB, Built in Math Co-proc. EISA BUS a. 340 MB Maxtor Hard Drive IDE, 15 ms access b. Deluxe Tower Case wth 200 watt power supply c. FD Install Kit: Dual (1.2MB & 1.44MB) Teac Floppy drives d. 2MB ATI Ultra Pro Plus Video Card 32 bit (LOCAL BUS) e. Viewsonic 15, 15 " EVGA color 1280 x 1024 multisync N/I Flat Screen Monitor f. I/O Card 2 Serial ports 1 Parallel Port g. Additonal I/O Card Parallel port h. IDE Controller Card (32 bit) i. Microsoft BUS Mouse with Card j. MS DOS 6.0 and Windows v 3.1	3	ea	$ 2469.00	$ 7407.00
0201	8 MB RAM expansion to increase system to 16 MB	3	ea	400.00	1200.00
1 0202	3C509 EtherNet Network Adapter	3	ea	199.00	597.00
	Suggested source: Computer Corner JON: 5797AB01 2226-A Wyoming NE CSRD:PL-93-0373 AB Albuq NM 87112 phone (505)-294-7393				
				TOTAL	$ 9,204.00

PURPOSE: To support basic High Power Microwave research.

DATE	TYPED NAME AND GRADE OF REQUESTING OFFICIAL	SIGNATURE
4 Aug 93	Richard J. Komar, Capt, USAF	TELEPHONE NO. 846-0955
DATE	TYPED NAME AND GRADE OF APPROVING OFFICIAL	SIGNATURE
5 Aug 93	William R. Ayres, PL/WSS GS-13	

I certify that the supplies and services listed above and in the attached list are properly chargeable to the following allotments, the available balances of which are sufficient to cover the cost thereof, and funds have been committed.

ACCOUNTING CLASSIFICATION	AMOUNT
5733600 293 4735 615797 646551 637 62601F 662300 5797AB01	$ $9204.00

DATE	TYPED NAME AND GRADE OF CERTIFYING OFFICIAL	SIGNATURE

AF FORM 9, MAR 77 *(EF)*

Figure 2. Sample Request for Purchase, AF Form 9

PROJECT ORDER
(See reverse for instructions for issuing Project Order)

1. ☐ FIXED PRICE ☒ COST REIMBURSEMENT

2 DATE: 29 Jan 93

3. ORDERING COMPONENT
NAME: PL/FMBD
ADDRESS: 3550 Aberdeen Avenue SE, Kirtland AFB, NM 87117-5776

4. PROJECT ORDER NO.: FMBD 93-422 AFIT

5 AMENDMENT NO.: BASIC

6. PERFORMING ESTABLISHMENT
NAME: AFIT/ENP Attn: Dr William Bailey
ADDRESS: WPAFB, OH 45433
STATION NO.:

7. DELIVERY INSTRUCTIONS
PLACE:
DATE:
METHOD:

8. DESCRIPTION OF WORK TO BE PERFORMED AND OTHER INSTRUCTIONS *(If additional space is required, use Supplemental Data Section on reverse or attach additional sheets.)*

1. PURPOSE: To provide FY93 funds in support of the Thermionic Systems Evaluation Test in the effort to get information on the physical process for high current, low voltage, and rad-hardned DC-AC switching devices (e.g. Tacitron).

2. PROJECT ORDER TOTAL IS: $34,463.00 (This AMOUNT MAY NOT BE EXCEEDED without prior written approval of the initiating activity.) All documents citing these funds must reference above Project Order number. **(Send all BILLINGS charged against this order to: DAO-DE KAFB/FSC, 8500 Gibson Blvd SE, Kirtland AFB NM 87117-5559).**

3. PERIOD OF PERFORMANCE END DATE: 30 SEP 93

4. POINTS OF CONTACT:
PL/VTPN PROJECT OFFICER: Lt Mark Suriano, DSN 246-7240
PL/FMBD BUDGET ANALYST: Ms Jennie Murillo, DSN 246-4327
AFIT/ENP ADMIN POC: Dr William Bailey, DSN 785-2012
AFIT/ENP TECHNICAL POC: Capt Don Nichols, DSN 785-2012

5. Please sign and date Block 11 and return by 22 Feb 93 to: **PL/FMBD, 3550 Aberdeen Avenue SE, Kirtland AFB NM 87117-5776.**

JON: 15031001 RC/CC: 646451

Jennie Murillo
JENNIE MURILLO
Budget Analyst

9. a. ACCOUNTING CLASSIFICATION
9730400.25FF YL3 4735 150310 646451 592 63217C 662300
15031001 (PO # FMBD 93-422 AFIT)

b. AMOUNT: $34,463.00

10 THIS ORDER IS PLACED IN ACCORDANCE WITH THE PROVISIONS OF 41 U.S.C. 23 AND DEPARTMENT OF DEFENSE INSTRUCTION 7220.1. WORK TO BE PERFORMED AND MATERIAL TO BE PROCURED PURSUANT TO THIS ORDER ARE PROPERLY CHARGEABLE TO THE APPROPRIATION OR OTHER ACCOUNTS INDICATED ABOVE UNTIL

30 SEP 93
DAY - MONTH - YEAR

THE COMPLETION DATE OF THIS PROJECT ORDER. FUNDS IN THE AMOUNT INDICATED ABOVE HAVE BEEN COMMITTED AND WILL BE OBLIGATED UPON RECEIPT OF ACCEPTANCE COPY.

TYPED NAME AND TITLE OF AUTHORIZING OFFICER: Sarah A. Addis Certifying Officer 29 Jan 93
SIGNATURE: Sarah A. Addis

11. The above terms and conditions are satisfactory and are accepted.

DATE ACCEPTED	TYPED NAME & TITLE OF ACCEPTING OFFICER	SIGNATURE
2/8/93	KAREN S. CRINER Resource Advisor School of Engineering	Karen S. Criner

AF FORM 185 JUL 76 PREVIOUS EDITION WILL BE USED.

Figure 3. Sample Project Order, AF Form 185

MILITARY INTERDEPARTMENTAL PURCHASE REQUEST

1. PAGE 1 OF 1 PAGES

2. FSC	3. CONTROL SYMBOL NO.	4. DATE PREPARED	5. MIPR NUMBER	6. AMEND NO.
		14 Jan 93	FMBD 93-398 NRL	BASIC

7. TO:
Naval Research Laboratory
Attn: Dr Barry Rippin, Code#4780
4550 Overlook Av SW
Washington, DC 20375-5000

8. FROM: (Agency, name, telephone number of originator)
PL/FMBD
3550 Aberdeen Ave SE
Kirtland AFB NM 87117-5776

9. ITEMS ☐ ARE ☐ ARE NOT INCLUDED IN THE INTERSERVICE SUPPLY SUPPORT PROGRAM AND REQUIRED INTERSERVICE SCREENING ☐ HAS ☐ HAS NOT BEEN ACCOMPLISHED.

ITEM NO. (a)	DESCRIPTION (Federal stock number, nomenclature, specification and/or drawing No., etc.) (b)	QTY (c)	UNIT (d)	ESTIMATED UNIT PRICE (e)	ESTIMATED TOTAL PRICE (f)
001	a. PURPOSE: To provide FY93 funds to conduct an experimental program using the NRL space chamber to develop experimental parameters for a high RF energy plasma shield. The shield has potential for sheilding satellites against High Power Microwave and Electromagnetic Pulse environments. b. MIPR TOTAL IS $150,000.00 (This AMOUNT MAY NOT BE EXCEEDED without prior written approval of the initiating activity.) All documents citing these funds must reference the above MIPR number. c. **PERIOD OF PERFORMANCE END DATE: 30 SEP 93** d. POINTS OF CONTACT: PL/WSS TECH POC: Mr Alfred Sharp, (505) 846-0848 PL/FMBD FIN POC: Ms Lila Hindi, (505) 846-4326 NRL TECH POC: Dr Barry Rippin, Code 4780 (202) 767-9117 NRL ADMIN POC: Ms Tena Meason, Code 4702 (202) 767-2727 e. If accepted on a DIRECT CITE BASIS, funds ARE NOT AUTHORIZED for TRAVEL or for REDISTRIBUTION (transferring) to other agencies. **Forward a signed and dated copy of the attached Acceptance of MIPR, DD Form 448-2, and OBLIGATING DOCUMENTS to: DAO-DE KAFB/FSC 8500 Gibson Blvd SE Kirtland AFB NM 87117-5559 and PL/FMBD 3550 Aberdeen Ave SE Kirtland AFB NM 87117-5776** **JON: 3763AZZA** RC/CC: 646550				$150,000.00

10. SEE ATTACHED PAGES FOR DELIVERY SCHEDULES, PRESERVATION AND PACKAGING INSTRUCTIONS, SHIPPING INSTRUCTIONS AND INSTRUCTIONS FOR DISTRIBUTION OF CONTRACTS AND RELATED DOCUMENTS.

11. GRAND TOTAL $150,000.00

12. TRANSPORTATION ALLOTMENT (Used if FOB Contractor's plant)

13. MAIL INVOICES TO (Payment will be made by)
DAO-DE KAFB/FSC, 8500 Gibson Blvd SE
Kirtland AFB NM 87117-5559
PAY OFFICE DODAAD F62300

14. FUNDS FOR PROCUREMENT ARE PROPERLY CHARGEABLE TO THE ALLOTMENTS SET FORTH BELOW, THE AVAILABLE BALANCES OF WHICH ARE SUFFICIENT TO COVER THE ESTIMATED TOTAL PRICE.

ACRN	APPROPRIATION	LIMIT SUBHEAD	SUPPLEMENTAL ACCOUNTING CLASSIFICATION	ACCTG STA DODAAD	AMOUNT
	5733600		293 4735 633763 646550 592 64711F	662300	$150,000.00
			3763AZZA (MIPR # FMBD 93-398 NRL)	F62300	
	A. Tarin Certifying Officer 15 Jan 93		OBLIGATE NLT: 30 SEP 93		

15. AUTHORIZING OFFICER (Type name and title) LILA HINDI, Budget Analyst

16. SIGNATURE

17. DATE 14 Jan 93

DD FORM 1 JUN 72 448

*U.S.GPO 1986-0-150-820

Figure 4. Sample Military Interdepartmental Purchase Request (MIPR)

ACCEPTANCE OF MIPR

1. TO (Requiring Activity Address) (Include ZIP Code)	2. MIPR NUMBER	3. AMENDMENT NO.
PL/FMBD 3550 ABERDEEN AVE SE KIRTLAND AFB NM 87117-5776	93-398	BASIC
	4. DATE (MIPR Signature Date) 01-14-93	5. AMOUNT (As Listed on the MIPR) 150,000

6. The MIPR identified above is accepted and the items requested will be provided as follows: (Check as Applicable)

a. ☐ ALL ITEMS WILL BE PROVIDED THROUGH REIMBURSEMENT (Category I)

b. ☐ ALL ITEMS WILL BE PROCURED BY THE DIRECT CITATION OF FUNDS (Category II)

c. ☒ ITEMS WILL BE PROVIDED BY BOTH CATEGORY I AND CATEGORY II AS INDICATED BELOW

d. ☐ THIS ACCEPTANCE, FOR CATEGORY I ITEMS, IS QUALIFIED BECAUSE OF ANTICIPATED CONTINGENCIES AS TO FINAL PRICE. CHANGES IN THIS ACCEPTANCE FIGURE WILL BE FURNISHED PERIODICALLY UPON DETERMINATION OF DEFINITIZED PRICES, BUT PRIOR TO SUBMISSION OF BILLINGS.

7. ☐ MIPR ITEM NUMBER(S) IDENTIFIED IN BLOCK 13, "REMARKS" IS NOT ACCEPTED (IS REJECTED) FOR THE REASONS INDICATED.

8. TO BE PROVIDED THROUGH REIMBURSEMENT CATEGORY I			9. TO BE PROCURED BY DIRECT CITATION OF FUNDS CATEGORY II		
ITEM NO. a	QUANTITY b	ESTIMATED PRICE c	ITEM NO. d	QUANTITY e	ESTIMATED PRICE f
		ACCEPTANCE COPY $70,000			$80,000
d. TOTAL ESTIMATED PRICE		$70,000	d. TOTAL ESTIMATED PRICE		$80,000

10. ANTICIPATED DATE OF OBLIGATION FOR CATEGORY II ITEMS	11. GRAND TOTAL ESTIMATED PRICE OF ALL ITEMS
	$150,000

12. FUNDS DATA (Check if Applicable)

a. ☐ ADDITIONAL FUNDS IN THE AMOUNT OF $_____ ARE REQUIRED (See justification in Block 13)

b. ☐ FUNDS IN THE AMOUNT OF $_____ ARE NOT REQUIRED AND MAY BE WITHDRAWN

13. REMARKS

The reimbursable portion of this order is accepted with the understanding that it is placed in accordance with the provisions of 41 USC 23 and DODINST 7220.1.

14. ACCEPTING ACTIVITY (Complete Address)	15. TYPED NAME AND TITLE OF AUTHORIZED OFFICIAL	
Commanding Officer Naval Research Laboratory Washington D.C. 20375-5000	Debra Ripper, Budget Officer	
	16. SIGNATURE Budget Officer	17. DATE 05 FEB 1993

DD FORM 448-2 1 JUL 71 — PREVIOUS EDITION WILL BE USED UNTIL EXHAUSTED. — S/N 0102-LF-004-4701 — C-4709

Figure 5. Sample MIPR Acceptance, DD Form 448-2

Figure 6. Sample Procurement Directive, AF Form 830

PROCUREMENT DIRECTIVE	DATE	PROCUREMENT DIRECTIVE NO	AMENDMENT NO	PAGE 1 OF 1
	24 Jun 93	FMBD 93-534 EOARD	BASIC	

ISSUED TO	ISSUED BY	INITIATED BY	VALIDATED BY
AFOSR/EOARD PSC 802/Box 14 FPO AE 09499-0200	PL/FMBD 3550 Aberdeen Ave SE KAFB, NM 87117-5776	ALICE PARE Budget Analyst	CHRIS AYALA Chief, Mission Support Br

INSTRUCTIONS

This document authorizes recipient to initiate procurement action up to but not including commitment action, within program flexibilities. Funding source, for initiation actions are indicated for each line below.

Programs listed herein are contained in the financial plan of this Division, have been approved by higher headquarters and therefore are authorized for initiation transaction purposes. Reservation of funds for commitment purposes will be accomplished by this Division upon receipt of Administrative Commitment Documents (ACD) or upon advisement, followed by ACD.

ACCOUNTING AND FINANCE STATION NUMBER

ACCOUNTING AND FINANCE OFFICER

G. RAEL CERTIFYING OFFICER/MRK

ALLOTMENT CODE	ACCOUNTING CLASSIFICATION: BPAC	MPC OR PROGRAM STRUCTURE	R&D PROJECT NUMBER	TASK	PREVIOUS PROGRAM QTY	PREVIOUS PROGRAM AMOUNT	INCREASE OR DECREASE QTY	INCREASE OR DECREASE AMOUNT	REVISED PROGRAM QTY	REVISED PROGRAM AMOUNT
5733600	293	4735	623151	000000		$0		$25,000.00		$25,000.00
63605F	662300 (PD FMBD 93-534 EOARD)									
JON: 3151LCBA		RC/CC: 646311								

1. PURPOSE: To provide FY93 funds for research report on the modification of spontaneous emission in semiconductor microstructures.

2. POINTS OF CONTACT: PL/LIDA PROJECT OFFICER: Dr David Depatie, (505) 846-4758
PL/FMBD BUDGET ANALYST: Ms Alice Pare, (505) 846-2100 FAX: (505) 846-4328
EOARD POC: Dr Kirk Hackett, 44-71-409-4354
KAFB ACCOUNTING TECH: Ms Regina Koren, (505) 846-7302

3. This PD is to fund only the effort stated above. These funds MAY NOT be redirected to another Government Agency. Please notify the PL Program Analyst of any excess funds. Documents citing these funds must reference the above PD number on all OBLIGATING DOCUMENTS, BILLING INVOICES, and CORRESPONDENCE.

4. SEND OBLIGATING DOCUMENTS TO: DAO-DE KAFB/FSC
Attn: Ms Regina Koren
8500 Gibson Blvd SE
Kirtland AFB, NM 87117-5999
DSN: 246-7451
and
PL/FMBD
3550 Aberdeen Ave SE
Kirtland AFB, NM 87117-5776

5. FUNDS MUST BE OBLIGATED NLT: 15 Aug 93
Period of Performance End Date is: 30 Sep 93

AF FORM JUL 93 830

A U.S. GOVERNMENT PRINTING OFFICE: 1992-733-997/62 5-1

FUND CITE AUTHORIZATION (FCA)

ADVICE NUMBER	CHANGE NUMBER	DATE ISSUED	EXPIRATION DATE
HY-93-064	Original	22 Jan 93	17 Sep 93

REQUESTED BY/ISSUED TO (Activity's name and address)

PL/FMBD
3550 Aberdeen Ave SE
Kirtland AFB NM 87117-5776

INDIVIDUAL ADMINISTERING FCA (Name, address, and telephone no.)

WL/MLF - 2230 10 St, Suite 1
Attn: Ms Sandy Park
WPAFB, OH 45433-7817

INSTRUCTIONS TO REQUESTING/RECEIVING OFFICE

This form may be used by an activity to request authority to cite funds or by the AFO to issue fund cite authority under the provisions of AFR 177-101. Before the beginning of a period, an activity may submit this form to the AFO as a request for fund requirements for a specific period and specific purposes. The amount approved by the AFO is an estimate of the amount which may be obligated. You must advise the issuing AFO when it becomes apparent that obligations may exceed the amount made available on this form. Failure to do so may overobligate the funds administered by the AFO and result in a violation of AFR 177-16. The recipient or person administering this document could be held responsible for the violation and subject to administrative discipline. Show the accounting classification and advice number on all obligation documents. Return a duplicate copy of this form to the issuing AFO as soon as all obligations have been incurred or on the expiration date, whichever comes first. Also return any outstanding commitment documents that authorize obligations which have not been incurred. The total dollar amount of these documents should equal the total of the Commitment Amount columns. Send to the issuing AFO any obligation documents received after expiration of the period of the authority. DO NOT use this form after expiration even if an available balance remains. Keep the original form for your files. Instructions for maintaining this form are on the reverse.

To: Accounting and Finance Officer:

Request authority to cite funds and incur obligations for the purpose stated below, in amount of $80,000.00, to cover estimated fund requirements for the period 25 Jan 93 to 17 Sep 93.

PURPOSE:

1. PURPOSE: FY 93 funds to provide WL support for PL BRDF measurements.

2. POCs: PL/WSAI PROJECT OFFICER: Mr Mark Culpepper, DSN 246-4347
PL/FMBD BUDGET ANALYST: Ms Alice Pare, DSN 246-2100
WL/MLF ADMIN POC: Ms Sandy Park, (513) 255-9864
WL/MLBT TECH POC: Mr Joe Costantino, (513) 255-4611

3. All documents issued must show the Accounting Classification and ADVICE NUMBER on all Obligation documents. **SEND OBLIGATING DOCUMENTS TO: DAO-DE KAFB/FSC, 8500 Gibson Blvd SE, Kirtland AFB NM 87117-5559.**

4. A copy of this authorization must be returned to the **DAO-DE KAFB/FSC** not later than the expiration date or when all obligations have been incurred, whichever occurs first. The administrator will sign immediately below the last obligation recorded.

5. Obligations charged against this authorization must not exceed the stated amount.

JON: 3647ADBB **RC/CC:** 646511

REQUESTER'S NAME AND GRADE	REQUESTER'S SIGNATURE
ALICE PARE Budget Analyst	Alice Pare

ACCOUNTING CLASSIFICATION	THIS APPROPRIATION EXPIRES 30 SEP 93	AMOUNT
5733600 293 4735 623647 000000 0588E 63605F 662300 F62300		$80,000.00

This authority to cite funds and incur obligations in the amount shown above is approved. This is not an administrative subdivision of funds per AFR 177-16.

TYPED NAME, ADDRESS, AND TELEPHONE NUMBER OF ISSUING ACCOUNTING AND FINANCE OFFICER (OR OFFICIAL DESIGNEE)	SIGNATURE
A. Tarin, Certifying Officer DAO-DE KAFB/FSC, 8500 Gibson Blvd SE Kirtland AFB NM 87117-5559	A. Tarin

AF FORM 616, APR 89 PREVIOUS EDITION WILL BE USED

Figure 7. Sample Fund Cite Authorization (FCA), AF Form 616

DOCUMENT TYPE	ROUTING					
Advance PR (Form 36)	DIR	FM	PK			
PR (Form 36)	DIR	FM	DAO (Com)	PK	DAO (Obl)	
Purchase Request (Form 9)	DIR	FM	LMCA/ SC/SUL	DAO (Com)	PK	DAO (Obl)
Project Order (Form 185)	DIR (Ltr)	FM*	DAO (Com)	Perf. Act.	DAO (Obl)	
MIPR (In-house)	DIR (Ltr)	FM*	DAO (Com)	Perf. Act.	DAO (Obl)	
Procurement Directive	DIR (Ltr)	FM	DAO (Com)	Perf. Act.	Perf. PK	DAO (Obl)
MIPR (contract)	DIR (Ltr)	FM	DAO (Com)	Perf. Act.	Perf. PK	DAO (Obl)
Fund Cite Auth (616)	DIR (Ltr)	FM	DAO (Com)	Perf. Act.	DAO (Obl Multiple)	

* Documents to FFRDCs require PK approval before FM processes.

NOTES:

Perf. Act. = Performing Activity
Perf. PK = Performing Activities Contracting Office

Figure 8. Typical Document Process Flow to Obligation

Programming/ Reprogramming

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Budget Division, PL/FMB
(505) 846-5545; DSN 246-5545

Plans and Programs Directorate
Program Integration Division
PL/XPP
(505) 846-4329; DSN 246-4329

Edwards AFB:

Asst. Comptroller; OL-AC PL/FM
(805) 275-5220; DSN 525-5220

Plans and Programs Directorate
Space and Missiles Tech Division
OL-AC PL/XPS
(805) 275-5340; DSN 525-5340

Hanscom AFB:

Asst. Comptroller; OL-AA PL/FM
(617) 377-2139; DSN 478-2139

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3606; DSN 478-3606

II. OVERVIEW

The Air Force budget is made up of a large number of programs. The requirements of these programs are balanced with available funds throughout the PPBS process. HQ USAF issues Program Management Directives (PMDs) to implement the programs which Congress has authorized and appropriated. During execution, unanticipated events such as technical difficulties, cost increases, and schedule slips can create imbalances between requirements and resources that require amended direction and/or additional funds. Funding adjustments should be accomplished in the POM or BES cycle where possible. If this is not feasible, an unfunded requirement (UR) in the execution years may be pursued to acquire additional funds.

If a laboratory program has a UR, the financial managers and program control personnel in PL/FM and XP will be the primary points of contact coordinating and processing the UR before it is reviewed by the Corporate Financial Management Board (CFMB) and the Laboratory Commander. Higher headquarters requires that laboratory commanders participate fully in the resolution of program and budget imbalances. Experience in the area of unfunded requirements has demonstrated the need for an orderly system of examining alternative solutions and providing recommendations to higher headquarters.

III. TERMS EXPLAINED

Current Approved Program is the funds appropriated for a FY (including any OSD-deferred or Air Staff withheld funds) as adjusted by any previously approved reprogramming (+ or -) actions, budget amendments, or supplementals.

Directed Effort is an RDT&E task directed by a HQ USAF PMD.

Reprogramming is a change in the application of financial resources (i.e., PE level) from those purposes justified to Congress and subsequently authorized and appropriated. Reprogrammings are either below or above threshold.

Unfunded Requirement (UR) is a directed effort that cannot be accomplished with the funds in the approved program (within a FY or PE). The unfunded portion of the directed effort is, by definition, the lowest priority task(s).

--Below threshold RDT&E reprogrammings do not involve Congressional "Special

Interest" items and the total increase is below $4M. Below threshold reprogrammings can be approved by SAF/FMB. HQ USAF delegated reprogramming authority of up to $3.999M among the 6.1 and 6.2 PEs (funds may be moved within 6.1 and 6.2 categories, but not between them) in the Technology Base Budget Activity to HQ AFMC. In turn, HQ AFMC has delegated this authority to AFMC divisions and centers for 6.2 PEs which do not cut across multiple divisions or centers.

--Above threshold RDT&E reprogrammings exceed the above limits and must be approved by OSD and require Congressional approval or notification.

Suitable Source means funds which can be used as a source to reprogram or align funds to a higher priority requirement.

Realignment refers to the reallocation of available funds among the tasks in a PE to obtain the optimum balance between requirements and available funds within the confines of the program direction specified in the current PMD. Many potential URs can be solved locally by the realignment process within the current approved program.

Top-Down UR is a program requirement identified by HQ USAF or HQ AFMC that may or may not be currently directed.

Bottom-Up UR is a program requirement identified by an AFMC field activity that cannot be accomplished within the currently approved program.

IV. UR PROCESSING

All PL-identified URs are processed and validated by the Corporate Financial Management Board (CFMB) before they are submitted to the Laboratory Commander for signature. Successful reprogramming must involve validation of both sources and requirements at the laboratory level before formal documentation can be forwarded for approval and action by HQ AFMC.

URs are only forwarded to HQ AFMC as a last resort. When a funding shortfall arises, every effort should be made to restructure the program to accommodate the shortfall. The Director/Program Manager/Project Manager in conjunction with the XP Program Element Planner (PEP) should attempt to reschedule/rephase and/or delete lower priority tasks within the confines of the current PMD. All proposed restructuring options should be coordinated with the using MAJCOM before submitting to HQ AFMC. If program restructuring cannot solve the problem, the program manager should attempt to obtain amended program direction. If amended direction is not possible, then, and only then, may a UR be submitted.

URs must be submitted to the CFMB Secretariat (PL/XPP). XPP will schedule the UR for the next available CFMB meeting or call a special CFMB depending on the urgency. Project Managers are advised to include the information requested in Figure 1 for both the required funding and the suggested source of funding in order to expedite the CFMB process. This information will help validate the UR for either realignment or reprogramming action.

If, after consideration of all the above alternatives, a Project Manager decides that reprogramming is absolutely essential for executability, he or she must be ready to explain to the CFMB why efforts to restructure or amend direction are not viable. When a Project Manager initiates a request for reprogramming, the Director authorizing the request has the primary responsibility to identify recommended sources. There is no pool of resources available, except what the Directors identify as the result of continuing surveillance of fallout or excesses due to contract changes or delays.

Beginning in FY91 the DOD Comptroller initiated the practice of submitting an Omnibus reprogramming action for all above threshold requests to the Congressional Committees for the entire FY. The Omnibus action combines all requests,

both notification and prior approval, from all DOD Components and agencies. The May submission to Congress requires AFMC units to prepare and submit their documentation in March. You can quickly see that reprogrammings take considerable time and effort and, if successful, may provide funds too late to meet your requirements.

One final word of caution; suitable sources that get identified to HQ AFMC or HQ USAF could become sources for higher priority requirements elsewhere and not be applied to the PL requirement!

UNFUNDED REQUIREMENT (UR)
REQUIRED FUNDS RATIONALE

FY:_____ PE:_____ BPAC:_____

PMD#/DATE:_____

PE TITLE:_____

SPECIAL INTEREST ITEM (Y/N):_____

CURRENT PROGRAM ($K): _____

REQUESTED INCREASE ($K): _____

REVISED PROGRAM ($K): _____

REQUIRED NEED DATE: _____

REASON FUNDS ARE REQUIRED:

IMPACT IF NOT FUNDED:

_____ _____
(Gaining Director's signature) (date)

UNFUNDED REQUIREMENT (UR)
SOURCE OF FUNDS RATIONALE

FY:_____ PE:_____ BPAC:_____

PMD#/DATE:_____

PE TITLE:_____

SPECIAL INTEREST ITEM (Y/N):_____

CURRENT PROGRAM ($K): _____

PROPOSED DECREASE ($K): _____

REVISED PROGRAM ($K): _____

AVAILABILITY DATE: _____

REASON FUNDS ARE AVAILABLE:

IMPACT OF REDUCED FUNDS:

_____ _____
(Losing Director's signature) (date)

Figure 1. Requirement and Source Rationale Format for Unfunded Requirements

Cost Estimating

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Cost Division, PL/FMC
(505) 846-5775; DSN 246-5775

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-2724; DSN 246-2724

II. INTRODUCTION

A key to good program and financial management is the development of a "reasonable" cost estimate of the resources needed to complete a program which can include both contract and in-house JONs. Following are two types of estimates that help ensure an accurate program estimate is achieved.

III. PROGRAM COST ESTIMATE

Requirement. Program Cost Estimates are documents used to define the total resources required to execute a program. These include contract(s) costs as well as any other government costs. PCEs provide program cost credibility and help maintain desired funding levels throughout the budget process. PCEs, after review, become the primary submittal during the Program Objective Memorandum (POM) cycle. A PCE is referred to as a "Blue Book" due to the blue cover used to submit the document. A PCE is also called a Program Office Estimate or POE. The PCE serves as the program manager's official estimate of the financial resources required to perform the current directed program. The latest policy guidance exempts all laboratory and test center programs and projects funded with 6.1, 6.2, 6.3A, and 6.4 level of effort Program Elements (PE)s from compliance with AFMCR 173-9, Cost Estimate Documentation as supplemented by SSDR 173-7, Cost Estimating and Analysis Program. Also exempted are programs not directed by a Program Management Directive (PMD) or, for BMDO programs, a Program Management Agreement (PMA). Even if your program is exempt from "Blue Book" documentation, appropriate cost estimating practices and documentation are critical to program financial management. This helps in establishing credibility with higher headquarters, tracking program cost changes, and creating a data base for future estimates.

Responsibility: The PCE is prepared by the Project Manager of the using organization. Prior to developing a PCE for your program, see the Phillips Laboratory Comptroller Cost Analysis Division (PL/FMC) first. PL/FMC will assist your cost estimating needs by addressing the appropriate cost estimating techniques and tools to best develop your estimate. PL/FMC cost estimators can perform the PCE or provide key assistance, depending on the priority, dollar value, type of program and current PL/FMC work load.

Life Cycle Cost (LCC) The LCC of a system is the total cost to the government of acquisition and ownership of that system over its full life. It includes the cost of development, acquisition, operation, support and, where applicable, disposal. As the type of programs managed by PL grow in size, LCC becomes an increasingly important concept. The PCE must cover the entire life cycle of a program.

IV. COMPONENT COST ANALYSIS (CCA)

Requirement DOD policy requires a Component Cost Analysis on larger (i.e. Category I or II) acquisition programs. A CCA is an estimate prepared by individuals not associated with the program office, and is used as a cross check to validate the program cost estimate (PCE).

Responsibility CCAs are performed by the Air Force Cost Agency and are used to support acquisition milestones decisions. Contact PL/FMC early on in the acquisition cycle for detail guidance.

V. ESTIMATING METHODOLOGIES.

There are three primary methodologies for developing an estimate. Their use is dependent upon a number of factors including the state of the technology being estimated and the availability of cost data. More than one estimating technique will often be used in a given estimate.

Parametric. Parametric cost estimating uses historical data to develop Cost Estimating Relationships (CER) which can then be used to model future costs.

Analogy. Analogy cost estimating uses historical cost data from like procurements and adjusts costs in a detailed manner to account for differences between the systems.

Grassroots. Grassroots, or bottoms-up, cost estimating primarily uses expert judgment and past contract data to estimate labor, material, equipment, travel, computer, and other direct cost needs. These costs are then burdened using direct, indirect and overhead rates to calculate a total estimated cost.

Cost/Schedule Performance Measurement

I. POINTS OF CONTACT

Kirtland AFB:

Comptroller
Cost Division, PL/FMC
(505) 846-5775; DSN 246-5775

II. DISCUSSION

FMC establishes policies and procedures for identifying, selecting, and acquiring contractor cost data and for helping you select, tailor, and understand contractor management systems which produce the cost and schedule performance measurement data. They are also the waiver and approval authority for all matters pertaining to financial reporting, including Data Item Description (DID) tailoring requirements, Work Breakdown Structures (WBSs), reporting levels, etc. FMC is also responsible for evaluation of contractors' proposed management systems for generating performance measurement data when specified in a contract. This action is necessary to standardize compliance with acceptable DOD standards on all contracts and to evaluate contractor's management systems before contract award. In addition, FMC acts as advisor during contract negotiations to resolve any disagreement with the contractors' management systems which might affect the level of confidence in the cost performance measurement data.

FMC is the focal point for performance measurement at PL. They receive copies of contractor performance data for major cost type contracts ($5M or over) and smaller critical or special interest contracts. FMC provides staff support to help the Project Manager interpret contractor cost and schedule performance data and generate an estimate-at-completion. In addition, FMC can provide an independent quantitative analysis and keep you and other management advised of potential significant problems. FMC is also the PL focal point for all financial reviews at contractor plants. This includes taking the team chief role at all reviews of C/SSR or CPR systems as well as accompanying Project Managers to contractor facilities for progress or contract status reviews in a business support function. There must be close cooperation and an open-minded approach between staff and the technology directorate to ensure the best possible financial management of contracts, to enforce DOD cost data reporting requirements, to minimize cost impacts and performance problems, and to avoid cost and schedule surprises.

For contracts under $5M, or for contracts over $5M which are subtask, level of effort, service, maintenance or Firm Fixed Price, FMC will assist in preparing the proper CDRLs, Work Breakdown Structure, etc., but will back out of the picture once the contract is awarded. However, FMC is always available on an "as needed" basis to help interpret data.

On at least an annual basis, FMC offers Cost Performance Analysis Training (CPAT). This is a three-day introductory course devoted to performance measurement and the reading of financial reports. In addition, there are courses available at AFIT and DSMC (both introductory and advanced). Please contact PL/FMC for more information.

III. COST REPORTS

There are a number of cost reports which may be used on Phillips Laboratory contracts. These are the Cost Performance Report , the Cost/Schedule Status Report (C/SSR), the Performance and Cost Report (P&CR), and the Funds and Man-hour Expenditure Report (FMER). Only one of these may be incorporated into any given contract. The appropriate report is

determined primarily by the nature and dollar value of the contract. References used to establish these guidelines: DODI 5000.2 and 5000.2M, AFMCP 173-3, and AFMCP 173-5. (See also Figure 1, C/SCSC Application and Reporting Threshold.)

Cost Performance Report (CPR), DI-F-6000C. This report is mandatory on all R&D contracts greater than $60M, with the exception of subtask level of effort (LOE) contracts which do not call for a hardware end deliverable, and Firm Fixed Price contracts. This reporting falls under Cost/Schedule Control Systems Criteria (C/SCSC). The contractor is required to have or implement a management control system which can be validated under these criteria. An appropriate review is performed 3-6 months after award.

Cost/Schedule Status Report (C/SSR), DI-F-80912. This report is mandatory on all contracts between $5M and $60M with the exception of subtask level of effort (LOE) contracts, contracts which do not call for a hardware deliverable, and Firm Fixed Price (FFP) contracts. The C/SSR is a scaled down version of the CPR. In addition, contractors' management control systems are not subject to the C/SCSC. A contractors' management control procedure must be approved (to less stringent criteria than the C/SCSC) for use on each contract requiring C/SSR by implementation review performed 3-6 months after contract award.

Performance and Cost Report (P&CR), DI-F-80912. The P&CR is suitable for efforts between $1M and $5M, or other contracts which receive waivers on cost performance reporting. The P&CR does not require the contractor to have a management control procedure subject to Air Force approval like (1) or (2) above.

Funds and Man-hour Expenditure Report (FMER) DI-FNCL-80331. This report is used for Subtask-LOE contracts at the Phillips Laboratory. Like the P&CR, it does not require the contractor to have an approved management control system.

Contract Funds Status Report (CFSR) DI-F-6004B. The CFSR is used in addition to any of the above cost reporting received. It is mandatory on all contracts over $1M and 6 months in duration, except for FFP contracts. As a rule, CFSRs are received quarterly and must be reconciled to either the CPR or C/SSR.

Contractor Cost Data Reporting (CCDR) Plan. The CCDR Plan is generated whenever the contract has a Work Breakdown Structure (WBS). It formalizes the WBS and makes it contractually binding. The Project Manager needs to get with FMC early on in the procurement cycle to develop WBS to fit the contract effort. The CCDR Plan is prepared as an attachment to the contract and specifies the reporting levels for the various required financial reports. A WBS Dictionary and a Statement of Work (SOW)/WBS matrix are attachments to the CCDR Plan.

Additional information on the above data items can be found in DODIs 5000.2, and 5000.2M, or by getting in touch with PL/FMC.

IV. WORK BREAKDOWN STRUCTURE (WBS)

A WBS is a product-oriented family tree composed of hardware, software, services, data, and facilities which results from systems engineering efforts during the acquisition of a defense material item. A WBS displays and defines the total system (product(s)) to be developed and/or produced and relates the elements of work to be accomplished to each other and to the end product(s). PL/FMC is the functional focal point for WBS development and approval. The WBS is formally documented in a Contractor Cost Data Reporting (CCDR) Plan. There are two types of WBSs:

Program Work Breakdown Structure (PWBS). A program work breakdown structure is defined as the work breakdown structure that covers the acquisition of a specific defense material item. The PWBS is

used to organize the entire effort being accomplished and serves as a framework for developing cost estimates. It includes all applicable elements consisting of at least the first three levels of the work breakdown structure and is then extended by the Project Manager and/or contractors. MIL-STD 881B, Work Breakdown Structures for Defense Materiel Items, prescribes a uniform element terminology, definition, and placement in the family tree structure for the PWBS. Large programs (such as Acquisition Categories (ACAT) I and II) require a PWBS once they have reached a certain acquisition milestone (Reference DODI 5000.2).

Contract Work Breakdown Structure (CWBS). A contract work breakdown structure is defined as the complete work breakdown structure for a contract (FMC is the approval focal point). It includes the DOD approved work breakdown structure and its discretionary extension to lower levels by the contractor. The CWBS includes all the elements of the product (hardware, software, data, or services) delivered by the contractor. It is critical to develop a CWBS before, or concurrently with, the SOW. A CWBS helps develop the SOW, cost estimates, evaluation criteria, as well as serving as the framework for reporting contract costs after award. A CWBS is not required for Level-of-Effort (LOE) contracts, contracts which do not call out for a hardware end deliverable, service or support contracts, and contracts under $5M.

MATRIX

THRESHOLDS FOR C/SCSC AND FINANCIAL REPORTING REQUIREMENTS[1]

ESTIMATED VALUE[2] ($ in millions) DATA ITEM :	COST/ SCHEDULE CONTROL SYSTEMS CRITERIA (C/SCSC) 52.234.7001	COST PERFORMANCE REPORT (CPR) DI-F-6000C	COST SCHEDULE STATUS REPORT (C/SSR) DI-F-6010A	CONTRACT FUNDS STATUS REPORT (CFSR) DI-F-6004B	PERFORMANCE AND COST REPORT (P&CR) DI-FNCL-80912	STATUS REPORT DI-MGMT 80368/T	CONTRACT WORK BREAKDOWN STRUCTURE (CWBS) DI-A-3023	CONTRACTOR COST DATA REPORTING PLAN (CCDR)
CONTRACT TYPE :	FLEXIBLY PRICED	FLEXIBLY PRICED	ALL CONTRACTS	ALL CONTRACTS	ALL CONTRACTS	ALL CONTRACTS	ALL CONTRACTS	ALL CONTRACTS
WAIVER AUTHORITY: [3]								
$ 250 & UP - PRODUCTION	MANDATORY	MANDATORY	UNAUTH	MANDATORY	UNAUTH	UNAUTH	MANDATORY	MANDATORY
$ 60 & UP - RDT&E	MANDATORY	MANDATORY	UNAUTH	MANDATORY	UNAUTH	UNAUTH	MANDATORY	MANDATORY
$ 5 - $249 PRODUCTION	AUTHORIZED	AUTHORIZED[4]	MANDATORY	MANDATORY	AUTHORIZED	AUTH	MANDATORY[6]	MANDATORY[6]
$ 5 - $59 RDT&E	AUTHORIZED	AUTHORIZED[4]	MANDATORY	MANDATORY[5]	AUTHORIZED	AUTH	MANDATORY[6]	MANDATORY[6]
$ 1 - $ 5 PROD/RDT&E	UNAUTH	UNAUTH	AUTHORIZED	MANDATORY	AUTHORIZED	AUTH	AUTHORIZED[6]	AUTHORIZED[6]
$ .250 - $ 1 PROD/RDT&E	UNAUTH	UNAUTH	UNAUTH	AUTHORIZED	UNAUTH	UNAUTH	UNAUTH	UNAUTH

CONTRACTOR COST DATA REPORTING REQUIREMENTS [7]

CONTRACTS WITHIN CAT I PROGRAMS:	DD FORM 1921	DD FORM 1921-1	DD FORM 1921-2	DD FORM 1921-3
ALL CONTRACTS UNLESS	MANDATORY	MANDATORY	MANDATORY	MANDATORY
WAIVED BY THE OSD CAIG	MANDATORY	MANDATORY	MANDATORY	MANDATORY
CONTRACTS WITHIN CAT II,III,IV PROGRAMS:[8]	AUTHORIZED	MANDATORY	MANDATORY	UNAUTHORIZED
SELECTED CONTRACTS	AUTHORIZED	MANDATORY	MANDATORY	UNAUTHORIZED
DATA ITEM :	DI-F-6006/T	DI-F-6007/T	DI-F-6008/T	DI-F-6009/T

NOTES:

1 - Thresholds and reporting requirements per the latest DODD 5000.1, DODI 5000.2, and DOD 5000.2-M.

2 - Includes estimated cost of options and unfunded line items.

3 - The milestone decision authority is the waiver authority for C/SCSC & C/SSR, otherwise Field Command Focal Point (FCFP) (SMC/FMC)

4 - May be used in lieu of C/SSR if approved by (FCFP).

5 - Mandatory for all contracts over $1M and 6 months long.

6 - CWBS and CCDR Plan not used on P&CR and Status Report.

7 - CCDR Data Reporting not required on contracts below $2 Million.

8 - Contracts within Cat II,III, & IV programs collect data at the descretion of the DoD Comp Head, DoD Comp Exec or Milestone Decision Authority. 5/7/92

Figure 1. C/SCSC Application and Reporting Thresholds

Introduction to Contracting

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

The PL Directorate of Contracting (PL/PK) at Kirtland AFB in Albuquerque accomplishes the acquisition actions and contract support for those segments of PL that are stationed at Kirtland, many of the actions for the PL Propulsion Directorate at Edwards AFB CA, and many actions for tenant organizations on Kirtland. Some acquisition actions and contract support for the Propulsion Directorate are performed by the contracting organization at the AF Flight Test Center (AFFTC) at Edwards AFB. The acquisition actions and contract support for the PL Geophysics Directorate at Hanscom AFB MA are performed by the contracting organization at the Electronic Systems Center (ESC) at Hanscom AFB. This chapter addresses only the documentation required in the PR Packages submitted to the PL Directorate of Contracting at Kirtland. The other contracting organizations mentioned above have their own guidance, and the applicable guidance for each of these organizations should be obtained and followed for acquisitions which they will accomplish.

II. CONTRACTING OVERVIEW

Government contracting must be conducted in a manner above reproach with impartiality and in accordance with applicable statutes and regulations. This chapter will address critical policies with regard to contracting with industry. It will focus on the importance of competition and will address circumstances which may warrant exceptions. It will also address issues such as conflict of interest.

Once you have an approved requirement and funds are certain, you should contact your contract focal point to plan a strategy to meet your needs. The Directorate of Contracting (PL/PK) has dedicated specific Divisions to the support of each PL technology component: Lasers & Imaging (LI), Space Experiments (SX), Space & Missiles Technology (VT), and Advanced Weapons & Survivability (WS). (If your activity is not listed above, contact PK directly for assignment of contract support.)

R&D Contract Cycle Steps

The process of new R&D acquisition has seven phases listed below. The first two -- planning and purchase request initiation -- currently have no set milestones but require timely execution in order not to jeopardize the availability of funds to support an award. The next four phases end when the contract is awarded. These four phases will take at least three months and more likely four to five months, depending on the complexity, magnitude and degree of competition. These times are based on a competitively-sought R&D contract with a standard Request For Proposal (RFP). Alternative methods such as Broad Agency Announcements (BAA), Program Research Development Announcements (PRDA) and other streamlined approaches may provide for shorter acquisition lead-times but are limited in application. The last phase begins at contract award and continues until the technical effort is complete and the contract is closed out.

Planning Phase. After an R&D requirement comes to PL, plan how the work will be accomplished. Begin with the literature search and financial planning.

Purchase Request Initiation Phase. Draft the purchase request (PR) package, coordinate it, and put it in final form. Issue

Draft Request For Proposal (DRFP) if appropriate.

Solicitation Phase. The cognizant R&D Division publishes the synopsis in the Commerce Business Daily. Requests for proposals are sent to contractors and the contractors submit their proposals.

Evaluation Phase. Your evaluation team performs a technical and quantitative evaluation on each proposal.

Negotiation Phase. PK leads the team which negotiates with the contractors who made acceptable offers.

Contract Award Phase. PK awards the contract.

Contract Administration Phase. The contractor executes the contract.

III. COMPETITIVE CONTRACTING

The operation of the federal procurement system is based on The Competition in Contracting Act of 1984 (CICA). CICA promotes full and open competition in the government acquisition process. It requires that all responsible sources be permitted to compete, unless a statutory exception permits otherwise.

IV. SET-ASIDES

To fulfill statutory requirements relating to socioeconomic programs, Procuring Contracting Officers (PCOs) may limit competition to certain types of business concerns. The preferences are shown in the following list in descending order of importance:

--8(a) contractors;

--Small disadvantaged business concerns;

--Historically black college, university and/or minority institutions;

--Small businesses;

--Labor surplus area concerns.

V. EXEMPTIONS TO FULL AND OPEN COMPETITION CONTRACTING

The seven statutory authorities listed below are the only exceptions which permit contracting without providing for full and open competition. Note that lack of advance planning or availability of funds are not included as exceptions permitted. Justifications to support these authorities are required.

Only one responsible source and no other will satisfy agency requirements. (FAR 6.302-1) Instances under which this justification might be used include acquisitions resulting from a unique and innovative unsolicited research proposal; when the agency head (under the agency's standardization program) has determined that only specific items will satisfy the government's need; when continued development or production of a major system or highly specialized equipment is required; when patents, data rights, etc. make competition impossible. Use of this exemption requires publication of a synopsis and consideration of any bids/proposals. Synopsis is required as a means for showing that no other qualified sources exist.

Unusual and Compelling Urgency. (FAR 6.302-2) This authority only applies if delay in award of a contract would result in SERIOUS injury to the government, i.e.; contracts awarded to execute disaster relief, support a wartime effort or to preclude economic/financial hardship. (Note: Lack of planning does not justify use of other than full and open competition.) Be advised that an urgency justification will be carefully scrutinized by all review levels, including the PCO, legal counsel and competition advocate. Agencies shall request bids/offers from as many sources as is practicable under the circumstances.

Industrial Mobilization; or Engineering, Developmental, or Research Capability. (FAR 6.302-3) This authority is applicable if

it is necessary to keep vital facilities or suppliers available in order to support a national emergency or to achieve industrial mobilization or to establish/maintain an essential engineering, research or development capability to be provided by an educational, other nonprofit, or a federally funded research and development center.

International Agreement. (FAR 6.302-4) When a treaty or international agreement precludes full and open competition this is applicable. An example of this is foreign military sales.

Authorized or Required by Statute. (FAR 6.302-5) Examples include:

- Federal Prison Industries
- Qualified Nonprofit Agencies for the Blind or other severely handicapped
- Government Printing and Binding
- Sole source awards under the 8(a) Program
- Brand name commercial items for authorized resale.

National Security. (FAR 6.302-6) Classification of the effort, or use of classified material, in and of itself is not justification for use of this exemption. This authority is appropriate when disclosure of the government's needs would compromise the national security (i.e., would violate security requirements.)

Public Interest. (FAR 6.302-7) Authority to use this justification is vested in the Secretary or head of any executive agency, without power to redelegate. The other six authorities described above take precedence over this one.

Justifications for Other than Full and Open Competition for actions valued over $25,000 (including options) are required and must contain sufficient facts and rationale to justify use of the authority cited. The Request For Proposal Support Organization (RFPSO) or PCO can provide a format for this document. The format will incorporate information required by FAR 6.303-2. Written approvals are required as follows:

--Less than $100,000: PCO

--Greater than $100,000, but not exceeding $1,000,000: PK Competition Advocate

--Greater than $1,000,000, but not exceeding $10,000,000: PL/CC

--Greater than $10,000,000: Assistant Secretary of Air Force (or Deputy)

Justifications are not required if the contract will be awarded as a Set-Aside as discussed earlier.

VI. UNSOLICITED PROPOSALS (UPs)

Outside persons or firms may propose work under an unsolicited proposal. If you should receive such a proposal, contact PL/XP and forward the proposal to the focal point there. You should be aware that UPs must be truly unsolicited and cannot duplicate an existing effort or be in response to a solicitation to be valid. If the program office has a specific requirement, they must initiate a purchase request package which allows for competition, as discussed above. (For more information, refer to AFMC Pamphlet 70-5, "Unsolicited Proposal Guide.") In the event that a valid UP is received for evaluation, the following basic points apply:

--Evaluate the proposal solely on its merits.

--Accept all or any part of a UP.

--If the proposal is rejected, provide rationale for the rejection.

--Only a PCO may contact the offeror to inform them that a contract is forthcoming and/or they may start work.

--Assume that the UP contains proprietary information; secure it in a safe place to assure that its contents are not inadvertently disclosed.

--Acceptance of the proposal requires preparation of a purchase request package, to include a justification review

document (JRD) exempting the acquisition from full and open competition. Note: the burden will be on the evaluator to show that the offeror is the only source who can satisfy the technical requirement. We must protect unique ideas provided in UPs as well as consider competition in every potential acquisition. In most cases, the general concept contained in the UP will be synopsized by the PCO in the Commerce Business Daily (CBD) (with extreme care being taken not to reveal the specific unique approach put forth in the UP), and any other specific approaches to the general concept will be considered.

VII. BROAD AGENCY ANNOUNCEMENT (BAA) AND PROGRAM RESEARCH AND DEVELOPMENT ANNOUNCEMENT (PRDA)

The government has two special tools to use in acquisitions involving Science & Technology (S&T): the Broad Agency Announcement and the Program Research and Development Announcement.

The BAA and PRDA are published in the CBD, describing the government's requirements for basic research for scientific study and experimentation (for the BAA), or its interest in new and creative research or development solutions to scientific or engineering problems (for the PRDA), with the intent to solicit proposals. The BAA and PRDA are only appropriate contracting methods for exploratory research that has general application. Neither the BAA nor the PRDA are applicable if the basic research area to be explored (BAAs) or the solution to a scientific problem to be investigated (PRDAs) is related to a specific weapon system or a specific hardware development effort.

The process for using these two tools is different than for full and open competition: the requirement, evaluation criteria, and proposal submission date are published in the CBD. Proposals are submitted by offerors and evaluated by a government technical team. Successful proposals, purchase request packages and appropriate funds are forwarded to the PCO (with the technical and quantitative evaluation and any other information available to the Project Officer or requested by the PCO). The contract can then be negotiated, written and awarded.

Since all contractors have access to the CBD, and are given the same opportunity to reply to announcements, these actions are considered to be competitive acquisitions without a formal RFP process. Because only broad areas of research are defined (for BAAs), or the general scientific problems are addressed (for PRDAs), we do not limit the creativity of the offerors by restricting any possible approaches. This allows offerors to compete within their area of expertise without arbitrarily segmenting or scoping the work needed.

VIII. ASSISTANCE INSTRUMENTS (GRANTS, COOPERATIVE AGREEMENTS AND OTHER TRANSACTIONS)

Contracts are procurement instruments used to acquire goods and services through lease or purchase for the direct benefit or use of the government. Occasionally procurement instruments may not be appropriate for defining the relationship between the PL and other parties. Assistance instruments are used when the principal purpose is to transfer funds, property, services or anything of value, to accomplish support or stimulation for the public good, rather than pursuing applied research. Assistance instruments are appropriate when the laboratory is not acquiring something for its own use. Thus, examining the nature of effort is the critical determinate in deciding whether a contract or assistance instrument is appropriate.

There are three types of assistance instruments: grants, cooperative agreements, and other transactions. The PL has authority to issue grants and cooperative agreements for research and development using 6.1 and 6.2 funding, with the latter capped at 5 percent of the PL budget of a given fiscal year. A cooperative agreement should not be confused with a Cooperative

Research and Development Agreement that is discussed in TECHNOLOGY TRANSFER. The Air Force laboratories expect to receive a delegation to award other transactions.

A cooperative agreement is very similar to a grant except that the degree of government oversight is greater on a cooperative agreement. However, government oversight for assistance instruments is minimal when compared to that performed on contracts. Assistance instruments except for other transactions, are awarded to nonprofit or educational institutions. Generally, assistance instruments do not involve classified data.

Contact the PCO who will participate with the RFPSO in providing additional information and guidance on the suitability of using an assistance instrument for your project.

IX. INTEGRITY IN PROCUREMENT

Air Force Materiel Command emphasizes avoiding conflicts of interest between official duties and private interests. At the PL, in particular, we realize that the success of our acquisition mission depends not only on avoiding actual conflicts of interest, but also on avoiding the appearance of conflicts. Should you have any questions concerning conflict of interest matters, contact the base Contract Law and Laboratory Support Division (377 ABW/JAN).

In addition to maintaining those standards of conduct discussed in PL POLICIES, the Procurement Integrity Act imposes certain restrictions upon persons involved in the acquisition/procurement process. If your duties require you to become involved in preparing a statement of work, preparing a procurement or purchase request, evaluating or selecting proposals, negotiating contracts or modifications, reviewing or approving awards or modifications or performing related activities, you are a procurement official and must certify you have received training on the Procurement Integrity Act. During the conduct of a procurement, you may not discuss employment or accept gratuities from competing contractors, and may not disclose "proprietary" or "source selection information" to any person not authorized to receive it by the PCO. Procurement officials are also prohibited from going to work for a contractor on a contract for which they were a procurement official for two years after they ceased their procurement official duties. Any questions on the Procurement Integrity Act should be directed to the PCO or to 377 ABW/JAN.

X. PERSONAL SERVICES

Workforce (manpower) ceilings imposed by Congress eventually filter down through channels to constitute ceilings for the Laboratory. FAR 37.104(a) states:

> *"The government is normally required to obtain its employees by direct hire under competitive appointment or other procedures required by the civil service laws. Obtaining personal services by contract, rather than by direct hire, circumvents those laws unless Congress has specifically authorized acquisition of the services by contract."*

The government may purchase by contract what may be described as a finished product -- a piece of hardware, a defined piece of research, or a report. Unless Congress has passed a specific statute, the government may not contract out for the services of people who receive their assignments from government personnel, work under the direct supervision of government personnel, and whose relationship to the government is thus no different from that of a government employee. Where the government wishes to buy such services, it must hire the people directly under the civil service laws.

Personal services happen two ways: the way the contract is written or the way it is administered. In the contract itself, many contractual phrases in the statement of work may suggest personal services:

"As directed by the Air Force project manager . . ."

"Contractor shall assist . . ."

"Contractor shall support . . ."

"Furnish such assistance as may be necessary . . ."

"Update according to oral instructions . . ."

Also, any contract language is suspect if it implies a government right to specify individuals by name to work on the contract or gives the government power to hire or fire contractor employees.

A forbidden personal service contract results when the government assumes the right to instruct, supervise, or control a contractor's employee in actual work performance. It is one thing, for example, to sit down in a restaurant, to order a steak medium rare, and to accept it or reject it when it arrives. It is quite another to look over the chef's shoulder and tell him or her how to cook it. When the government exercises this sort of direct supervision over contractor personnel, it uses them as if they were its own civil service or military personnel. However well-intentioned, this renders the contract illegal.

You can make even the best written contract illegal by not administering it properly. Inspectors look for several danger signals:

--Contractor and Air Force personnel occupying the same office.

--Day-to-day supervision of contractor employees by the Air Force.

--Contractor and Air Force personnel jointly manning the same equipment.

--Contractor personnel providing secretarial services to Air Force people.

--Contractor employees referring to Air Force personnel as their supervisors.

--Air Force project manager dealing with numerous contractor employees rather than the contractor program manager.

XI. MANPOWER SUPPORT CONTRACTS

A manpower support contract is defined as any contract where the contractor delivers time, effort, management, or expertise. Some examples of manpower support contracts are Contract Advisory and Assistance Services (CAAS), Systems Engineering and Technical Assistance (SETA), Technical Engineering and Management Support (TEMS), Federally Funded Research and Development Centers (FFRDC), Operations and Maintenance (O&M), and Commercial Activities. In accordance with AFR 26-1, Vol. 3, 377 ABW/MO reviews all purchase requests, Communications-Computer Systems requirements (CSRDs) for all service contracts, and delivery orders associated with the Simplified Acquisition of Base Engineering Requirements (SABER) to determine the impact on in-service manpower requirements and to compute Contract Man-year Equivalents (CME). Purchase requests for manpower support contracts should have the Statement of Work (SOW) attached for 377 ABW/MO review.

Acquisition Planning

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

II. ACQUISITION PLANS

An Acquisition Plan (AP) is a formal document required for approval of certain types of acquisitions. Although the strategy for all acquisitions must be documented in the contract file, R&D acquisitions over $5M require a formal document which must be routed for specific approvals. The AP provides the foundation for the entire acquisition since it documents such information as the acquisition description, the history of the technological effort, cost and risk considerations, choice of contract type, acquisition milestones, supportability and producibility considerations, and efforts to enhance competition. Since the main purpose of a formal AP is to justify the need for the acquisition, the majority of the AP is devoted to describing the government's need and how the contemplated acquisition will fill that need. For this reason, the responsibility for developing the AP rests with the Project Manager. The Project Manager can obtain assistance in completing the AP from either the PCO or the RFPSO.

Science & Technology (S&T) acquisitions (most of what we do at PL) between $5M and $100M can use a streamlined format. Acquisitions over $100M must use a more formal structured format. While APs under $25M are approved locally, approval from the Secretary of the Air Force (SAF) is required for APs over that threshold. Attention to this document is vital since approval time can range from several weeks for local approval to over 120 days for SAF approval.

The AP approval authority for all locally approved APs (under $25M) is the Technology Director. Although the PCO's signature is the only other one required on the AP itself, all supplemental reviews must be documented and maintained with the AP. Supplemental reviews include such areas as the Competition Advocate, legal, staff (377 ABW/JAN), and the Director of Contracts (PL/PK). In addition to these PK reviews, most Technology Directors will also require documentation for reviews performed within their Directorates. The Directorate of Plans and Programs (PL/XPP) must approve all APs for any acquisitions involving the Ballistic Missile Defense Organization (BMDO), as well as all APs involving acquisitions funded with Air Force funds.

When establishing milestone schedules for acquisitions requiring APs, the time required for approval must be taken into consideration. Local approval can be accomplished in several weeks, and is usually accomplished while the RFP is being developed. Approval by SAF, however, can take up to 120 days, and can hold up the procurement since either AP approval or special authorization must be obtained before the RFP can be released. Under no circumstances can negotiations commence before the AP is approved, nor can the PCO make an award without discussions.

Sample formats for the streamlined S&T AP or the very formal AP described in the FAR for acquisitions over $100M are available from either the RFPSO or the PCO.

III. ACQUISITION STRATEGY PANEL (ASP)

The ASP is an ad hoc panel of functional experts who serve in an advisory capacity for each acquisition and review and recommend strategies. It is co-chaired by the cognizant two-letter Technical Director and the Director of Contracts (or their designees). An ASP is required for those

actions which require an Acquisition Plan, except for basic research (6.1), applied research (6.2), or advanced development (6.3) less than $25M. AFR 70-14, Acquisition Strategy Panels, defines ASP requirements. AFMC has further defined the ASP process, and has directed the development of functionally integrated review teams. (Reference: AFMC Pamphlet 800-7, Integrated Acquisition Strategy Process (IASP).)

The ASP should be convened as soon as possible after the requirement has been defined and an acquisition strategy has been developed. If the ASP is convened too early in the process, the PCO and Project Manager will not have a firm requirement nor a proposed acquisition strategy to discuss. If the ASP is not held early enough, any changes or recommendations made by the ASP will be difficult to accomplish. The Acquisition Plan remains in draft form until after the ASP is held so any changes or recommendations can be incorporated in the final AP.

IV. OMBUDSMAN

Potential offerors should always use established communication channels whenever possible during an acquisition. There may be occasions, however, when prospective offerors may not feel comfortable using the established channel of contacting the PCO. They may have serious concerns about various aspects of the RFP, or they may question whether competition is being promoted, or they may feel as though they are not being treated in an equitable manner. In these instances, potential offerors may want to bring these items to the attention of the PCO, but may feel that merely asking the question may jeopardize the evaluation of their own proposal. In consideration of such cases, a program has been established whereby a neutral third party provides a place where inquiries may be made by prospective offerors, questions can be asked and investigations made, without the PCO or Project Manager knowing the identity of the party making the inquiry. The neutral third party is known as the Ombudsman, which for PL is the Vice Commander. This person's purpose is not to provide opinions or judgments, but merely to receive and communicate serious concerns from potential offerors to the PCO and Project Manager when an offeror prefers not to use the established channels. An explanation of the Ombudsman programs existence and purpose is included in the CBD synopses to make sure all prospective offerors are permitted the opportunity to use this service.

V. CONTRACT TYPES

There are numerous types of contracts available which can be considered to fulfill the government's needs.

Contract types differ according to the degree of responsibility which the contractor will assume for the cost of performance, and the profit or fee incentive offered to the contractor for achieving or exceeding specified goals. Contracts fall within two basic types: fixed price and cost reimbursement. Firm Fixed Price (FFP) and Cost Plus Fixed Fee (CPFF) contracts represent the two ends of a complete spectrum of various types of contracts available to the PCO, with movement along the spectrum representing change in the two areas discussed above. A fixed price type of contract places maximum risk and responsibility for cost and profit or loss upon the contractor. Cost reimbursement type contracts place cost risk upon the government since they provide for payment of allowable incurred costs up to the limit established within the contract, plus the contractor will receive fee based on the arrangement specified in the contract. In between FFP and CPFF are various types of incentive contracts which tailor contractor responsibility for performance and cost, and the profit or fee incentive, to match the degree of uncertainty involved in the contract performance.

Within the categories of fixed price and cost reimbursement, contracts are further broadly classified as completion (also

known as "job") and term (also known as "level of effort" or LOE). Completion contracts specify an end item or result (a job) which must be achieved or completed for the contractual requirements to be considered satisfied. Term contracts only require the contractor to provide a "best effort" toward achieving the desired goal since all we are contracting for is a certain number of labor hours (a level of effort) to be spent in pursuit of the technical objectives. The category under which acquisition actions are placed will affect how the contract is written and how performance will be monitored.

Determination of appropriate contract type is made by the PCO, utilizing information provided by the program office. The main factors to be considered in making this decision are cost, schedule, and performance risk. Other factors may include:

--Urgency.

--Period of performance.

--Contractor's technical capability and financial responsibility.

--Adequacy of the contractor's accounting system.

--Existence of concurrent contracts.

--Extent and nature of proposed subcontracts.

VI. DRAFT RFPs

Draft RFPs (DRFP) are used to solicit input from interested parties concerning anticipated competitive acquisition actions. The use of a DRFP is encouraged in all acquisitions of sufficient cost and complexity to warrant its use. The complete RFP, in draft form, is sent to all parties responding to the Sources Sought Synopsis to provide an opportunity for questions, suggestions, challenges to requirements, or other general comments. The intent is to improve the quality of the final RFP, eliminate conflicts, reduce requirements to an absolute minimum, reduce proposal preparation time, and reduce the time required for government proposal evaluation. The Project Manager and PCO evaluate each input and prepare a response, including rationale for deferring or rejecting any comment. In cases where time does not permit the development and distribution of the entire RFP, an informal DRFP, including the SOW, CDRLs, Instructions for Preparing Proposals, and Evaluation Criteria may be used in order to secure as many of the advantages as possible. Since the process of publishing and distributing a Draft RFP, as well as receiving comments and preparing responses, takes quite a bit of time (at least 45 days), its use must be carefully planned into the acquisition milestone schedule.

VII. SYNOPSES

Synopses are notices to the general public regarding government contracting actions such as requests for information, release of RFPs, issuance of Invitations For Bids (IFBs), and contract awards. The government publicizes its contracting activities by placing announcements (synopses) in the Commerce Business Daily (CBD). The two most common synopses are the Sources Sought Synopsis and the Notice Of Contract Action (NOCA):

Sources Sought Synopses

As soon as a definite requirement is identified, the Project Manager should meet with the PCO to generate and submit a synopsis of the requirement for publication in the CBD. This synopsis will notify interested contractors of an anticipated government requirement, and may solicit responses relative to general interest or specific capabilities. The responses can provide a significant amount of information useful to both the Project Manager and the PCO:

The volume of responses can indicate the government's success in describing the requirements. A response by only a few potential offerors could be an indication

that some aspect of the requirement may be too vaguely defined or too restrictive. The requirement may then have to be rewritten to encourage interest by more offerors to promote competition.

If invited in the synopsis, businesses can provide Statements Of Capability (SOCs). In a situation where doubt exists relative to industry's capability to accomplish the tasks, the SOCs can provide this information. If the effort may be suitable for set-aside to small business, the SOCs can provide these potential offerors an opportunity to describe their capabilities. The volume of responses and the capabilities of the businesses can be used by the PCO in making the set-aside determination.

From the contractor's perspective, the synopsis provides them with initial notice of the government's requirement, and the intention of issuing an RFP at a future date, and allows contractors to develop appropriate capabilities through personnel acquisitions, teaming agreements, or subcontract arrangements.

Notice Of Contract Action (NOCA)

Prior to release of the RFP, we must announce our intention of making the solicitation available to all offerors. A complete discussion of the NOCA is covered in the Solicitation, Contract Award, Debriefings and Protests section of this handbook.

VIII. RFP READ FILES

If appropriate, Project Managers should establish a "read file" for prospective offerors to review documentation that is not provided with the RFP. Documents appropriate for a read file include those which prospective offerors may be required to access in order to gain insight into or better understand the requirement. Reports resulting from previous similar efforts, for example, may be included. The KAFB Technical Library (PL/SUL) will assist in procedures for running a read file. However, at the time of this writing, the Technical Library is not available to house read files due to a lack of space. Therefore, the Project Manager must locate and staff their own read files. All documents must be properly marked and handled in accordance with the originating agency instructions. Export control, limited access, classified, and intelligence originated documents require different lead times and handling methods. Access to documents must be equal for all interested parties. The Project Manager should also coordinate the read file with the PCO and it must be established prior to the issuance of the RFP.

If it is deemed necessary that prospective offerors view classified intelligence as part of the RFP, the person responsible for the RFP will secure approval for the release from the Senior Intelligence Officer (PL/IN) and include a copy of the approval letter in the RFP. For PL offices not located on Kirtland AFB, the same rules apply. Call the Intelligence Office (PL/IN) for assistance.

R&D Purchase Request (PR) Package

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

II. OVERVIEW

The PR Package is the means by which the technical representative or Project Manager transmits the information required by the PCO. The technical person involved in an acquisition and for contract support functions is often referred to as the Contracting Officers Representative (COR). The Request For Proposal (RFP) is the document by which we invite potential contractors to submit their offers, and the PR Package is the basis for the development of the RFP. The amount of information in the PR Package and the degree of formality is dictated by the value and complexity of the contemplated acquisition. The following paragraphs describe the assistance available, as well as each of the pieces of information required by the most complex acquisition. Less complex packages require less information. Section IV, PR PACKAGE CONTENTS, provides a detailed discussion of the documents required for each type of acquisition.

Early communication and coordination between the technical and contracting personnel are important to ensure each document is completed in an accurate and timely manner. Nothing slows down a procurement more than inadequate and incomplete documentation. Project Managers need to get their acquisitions on track as quickly as possible to make sure they don't lose their funding. Additionally, PCOs are concerned about Contract Lead Time, which is one of their measurements of efficiency.

III. REQUEST FOR PROPOSAL SUPPORT ORGANIZATION (RFPSO)

The RFPSO is a specialized group within the Phillips Laboratory dedicated to helping the contracting and technical personnel by assisting with acquisition planning and development of the PR Package and RFP. The extent of support provided to any acquisition by the RFPSO will be a joint determination of the PCO and the Project Manager. In addition to assisting in acquisition planning and document development, the RFPSO provides assistance to PCOs and Project Managers by highlighting milestone events, consolidating samples, formats, and guidance material, and developing training aids and informational presentations. The RFPSO is located in the Mission Support Division of the Directorate of Contracting (PL/PKM), and consists of a core group and a network of experts.

The core group dedicated to the RFPSO consists of several Procurement Analysts from PK who assist the PCO and the technical personnel in developing and presenting the acquisition strategy, and who assist in formulating and writing the documents required for each acquisition depending on the dollar value and complexity as determined by the PCO. The documents may include the following: Acquisition Plan, Source Selection Plan, Evaluation Criteria, and Award Fee Plan. The RFPSO can also help develop various other documents which may be necessary such as a Justification Review Document/Justification and Approval (JRD/J&A), Delegation of Source Selection Authority, and Delegation of Fee Determination Official.

The core group also includes a specialist who is dedicated to helping technical personnel translate their technical requirements into a Statement of Work (SOW) which will be included in the RFP. In addition, a Contracts Data Manager is dedicated to helping the Project Manager determine the correct data items to include in each contract, and providing assistance

in developing the Contracts Data Requirements Lists (CDRLs).

The RFPSO also has access to a network of experts who provide guidance on all specialized areas of PR Package and RFP development. These specialized areas include, but are not limited to, such issues as safety and environmental, security, legal, literature searches, and logistics.

IV. PR PACKAGE CONTENTS

This paragraph provides a detailed discussion of each document required to be included in and RFP, plus some additional items which are appropriate in specific circumstances. (While this list is intended as a guide for new acquisitions, it can be used as a reminder checklist for modifications.) The items discussed below do not constitute an exhaustive or exclusive list of items required for each and every acquisition. The list should be tailored by the PCO for each action. While all items identified by the PCO need to be completed as early in the acquisition cycle as possible, it is usually not possible to get them all together immediately. In cases where not all of the documents are ready at once, it is the PCO's determination of which documents must be present in the PR Package for it to be considered sufficient to initiate the acquisition action.

Cover Letter

The cover letter provides an introduction to the proposed acquisition, and the list of attachments serves as an index to the package itself. The letter should summarize what is being purchased, the dollar value of the acquisition and the source(s) of funding, the end items or deliverables, the history of the acquisition, a description of how the instant acquisition fits in with past and future efforts, and any other information you want to provide to the PCO. The cover letter should be signed by the two-letter Technical Director, since the PCO needs evidence that the Director is aware of the requirement and has programmed resources and funding for the effort. A signature on the cover letter is a great way to demonstrate the Technical Directors awareness and support.

Letter of Urgency

Many Directorates will have more than one acquisition occurring at any one time, and PCOs, Contract Specialists, Project Managers, and support staff (such as reviewers and legal counsel) have responsibility for more than one acquisition. There may be occasions when a specific acquisition action should be given priority consideration by all persons involved. Accordingly, the Lab Commander may have to identify one or more of the various actions as having precedence over the rest. This may be accomplished by providing a letter of urgency, signed by the Lab Commander, along with the PR Package, so all persons involved with the acquisition action will know that the action has priority. On a more narrow scale, a Technical Director may identify priority actions within a specific Directorate by assigning a letter of urgency to one or more acquisition actions. Directorate letters of urgency may have limited effectiveness in accelerating activity on a particular action outside of that Directorate since support staff have responsibility for actions for many Directorates.

TIP/TAP Documentation

In addition to the Technical Directors awareness and support for a project, the PCO needs to know that the effort has been programmed into the overall PL technical plan. The Technology Investment Plan (TIP) and Technology Area Plan (TAP) provide a picture of where the proposed acquisition fits in the overall PL strategy, and demonstrate that money and resources have been allocated. The PR Package, therefore, must contain the TIP/TAP as evidence that the proposed acquisition has been approved.

Funding Documents (AFMC Form 36 and AF Form 9)

Both funding documents are single page

forms which contain very specific information relative to the source of money for acquisitions. The PL Comptroller (PL/FM) can assist the Project Manager in completing the Form 36 and Form 9.

The AFMC Form 36, Purchase Request, is the document which actually provides the money the PCO needs to complete the acquisition detailed in the PR Package. The money for an acquisition (signified by a fully executed Form 36), or the promise of money (signified by a pre-committed Form 36), must accompany the PR Package. (All Project Managers and PCOs should refer to the section on small purchases accomplished by the Operational Contracting Division, since we are all charged with breaking out as many independently identifiable small purchases as to promote competition and socioeconomic programs. Having a prime R&D contractor act as our purchasing agent to buy commercially available items is both inappropriate and inefficient.)

If the acquisition involves an Award Fee, the project manager needs to provide a separate Form 36 since the award fee pool for the first period after contract award must be established prior to award, and the pool must have sufficient money to cover Award Fee liability for all efforts expected to be accomplished in the first period. (See the section on AWARD FEES for more information on funding).

Acquisition Plan

The Acquisition Plan (AP) is a document which describes the basis for, the acquisition, detailing the government need and explaining how the instant acquisition will fill that need. Although the degree of complexity of the AP will vary based on the dollar value of the acquisition, all APs address almost every significant aspect of the proposed contract, along with historical information and predictions of future actions in the same or similar technology. No formal APs are required for acquisitions less than $5M, although the Federal Acquisition Regulation (FAR) does require the PCO to document the acquisition strategy in some manner in the contract file for all acquisitions. There is a new streamlined format for Science & Technology APs between $5M and $100M. Acquisitions over $100M are required to follow a more detailed format. Check with the PCO or RFPSO for the format, instructions for each format, and assistance in completing the appropriate AP.

Literature Search

Prior to initiating an acquisition, a search must be performed of all available technical literature to determine if someone else has performed and documented the same or similar effort. The objective of this search, which is documented on an AFMC Form 569, is to avoid spending money on projects that have previously been accomplished.

The DOD Supplement to the FAR (DFARS 237.206(b)) specifically highlights the need for a literature search on acquisitions for studies: On acquisitions for studies, the purchase request package must contain a signed statement from the technical officer responsible for the study stating that the Defense Technical Information Center (DTIC) and other information sources have been queried, that evidence of those queries are on file, and no existing scientific or technical report could fulfill the requirement. (Note that other information sources can include intelligence data bases, NASA, DOE, ARPA, AFOSR, and commercial data bases.)

The PL Technical Library can do a computer assisted literature search in a very short time once the Project Manager provides the key words that describe the effort. Contact the PL Technical Library or the RFPSO for assistance in completing the search, and for obtaining information on how to access the various other information sources.

In accordance with the DFARS guidance, include the results of the search with the PR Package, with a Project Manager's certification as defined above where applicable.

Safety and Environmental Quality Office

The Safety and Environmental Quality Office (PL/SE) is required to review all new procurements, and an AF Form 813, Environmental Impact Analysis, is required for each PR Package. A discussion of the Safety and Environmental Quality Office is contained in LABORATORY SUPPORT SERVICES.

Foreign Disclosure

Responsibility for the proper release of USAF information to a foreign national or government lies with the Foreign Disclosure Policy Office (FDPO). The FDPO implements the government's National Disclosure Policy by ensuring that release of information is handled according to DOD and USAF regulations. For this reason, all contemplated acquisitions must be reviewed by the PL FDPO located at PL/IN. The Operating Locations at Edwards AFB and Hanscom AFB also have individuals that assist in handling interactions with foreign nationals. At Edwards AFB, the FDPO is located at OL-AC PL/TSTR. At Hanscom AFB, an individual at OL-AA PL/XPG serves as liaison to the FDPO at Electronic Systems Center (ESC), who is currently responsible for disclosure issues for the various organizations at Hanscom AFB. There are many subject areas that require the assistance and inclusion of the FDPO. In R & D contracting, the following disclosure requirements apply:

In the beginning of a solicitation which contains classified, unclassified but limited distribution information, or export controlled data, the Project Manager meets with the FDPO to conduct a foreign disclosure review. Proposed contracts that include only public domain information do not require a disclosure review. This review involves completion of the AFMC Form 1027 by the Project Manager using the Militarily Critical Technologies List (MCTL) and foreign disclosure regulations. The Statement of Work (SOW), (draft is acceptable) is provided to the FDPO, who submits it with the completed form to headquarters disclosure offices. For BMDO funded solicitations, the package is submitted to BMDO as well. The review determines if foreign contractors will or will not be allowed to participate in the solicitation. Therefore, it is important the review be conducted prior to publishing the synopsis in the CBD.

All contracts awarded by PL/PK are at the prime contractor level. If a U.S. owned firm is awarded a USAF contract and wishes to subcontract to a foreign owned or controlled firm, the prime contractor must obtain an Export License through the Office of Munitions at the Department of State.

The PCO must include a clause in Section H of the contract which requires the contractor to advise the USAF prior to hiring a foreign national to work on the contract or providing technical information relating to the contract to a foreign national or government. The contractor must advise the PCO of its interest in disclosing USAF technical information to a foreign national. The Project Manager and the FDPO will provide assistance to the PCO, who makes the final decision about who may work on the contract. The foreign national clause should be included in all contracts with the exception of those that contain only public domain information.

If a contract is awarded to a foreign firm, there may be a requirement for foreign nationals to visit PL locations on base. Canadian contractors and Canadian government employees may submit names, DOB, agency or company, dates of visit, local POC, and purpose of visit directly to the FDPO. This process is known as a Directly Arranged Visit (DAV). This method of obtaining approval to visit a USAF installation is only for Canadians. All other foreign visitors must submit a visit request through their embassy in Washington, D.C. Visit requests from embassies require sufficient lead time to allow receipt from the Pentagon and MAJCOM and subsequent approval.

Project Managers should be aware there are bilateral and multinational agreements

that allow for release of unclassified/limited and classified information on specific topics to foreign governments. Therefore, it is illegal to restrict foreign firms from USAF contracts without accomplishing a foreign disclosure review. The FDPO has local authority to approve and disapprove foreign firms; however, those that are disapproved must be submitted to headquarters offices which have 10 working days to overturn the local decision.

Information for the Contracting Officer (ICO)

The PCO requires a significant amount of information to assemble the actual contractual document for an acquisition. The ICO is a document designed to allow the PCO to have a ready answer for all inputs required by the computerized document writing program. The ICO format will change in response to updates in PK's document writing capability, so the most current ICO format must be obtained from the PCO or the RFPSO and included in the PR Package. The ICO is available on PK's computer system for completion by the Project Manager.

Statement of Work (SOW)

The SOW provides guidelines, criteria, and parameters governing the work we want the contractors to perform. An important thing to remember is that the SOW states WHAT we want done, not HOW we want it done. Once we tell prospective contractors what we need via the SOW provided in the RFP, the how to do it will be provided by each offeror in their technical proposal.

The Project Manager is responsible for interpreting the government's requirements into a document that clearly and accurately conveys that requirement. The SOW must indicate objectives and performance requirements clearly to make sure that the contractors efforts accomplish what is desired. A clear indication of an inadequate SOW is provided in the case where the contractor accomplished what the SOW called for, but the result was not what the Project Manager intended. Another criterion for an SOW is that it must divide the work into definable segments that are able to be priced by prospective offerors.

The SOW provides the ONLY technical direction which the contractor must follow. The Program Manager, therefore, must take care to develop a comprehensive, accurate document. If changes to the SOW are required later due to changes in technical direction or because we didn't provide a good SOW to begin with the SOW can be changed through a formal contract modification, but we may be required to provide additional compensation to the contractor - compensation that Project Managers seldom can obtain, along with an explanation as to why the change is required.

While technical personnel may discuss general areas of interest with contractors in order to gain knowledge and to develop a clear requirement, extreme care must be taken to avoid providing early indications of the government's requirement to any particular contractor. No discussion with prospective offerors is permitted, once the requirement becomes clear.

The RFPSO has a person dedicated to helping Project Managers take raw requirements and develop an SOW that meets all of the above criteria.

Contract Data Requirements List (CDRL) and Data Item Descriptions (DIDs)

Acquisition actions which will result in the generation, preparation, and delivery of technical or administrative data (reports, manuals, progress reports, letters, drawings, or films) require the preparation of DD Form(s) 1423, Contract Data Requirements List. As an exhibit to the contract, the contractor is required to deliver only the data items listed in the CDRL(s). These DD 1423s, therefore, become the enforcement tool for the PCO to ensure the government gets what it pays for in the form of deliverable data. Note that referencing or identifying the deliverables in the SOW does NOT establish an enforceable

deliverable data item requirement. The SOW includes requirements to perform work tasks which may result in the generation of data, and the generation of data as a task in the SOW must be referenced to the appropriate CDRL, but it is not an enforceable requirement without the attachment of a corresponding CDRL to the contract. The Data Item Description (DID) is the document which provides information relative to the format and content of the various documents and other data deliverables called out in the CDRLs. For instance, instead of describing the format and content of a cost report in every CDRL for every contract that uses that particular report, the CDRL references a DID which provides all of that information in a central document. The RFPSO has a member who is a specialist in the use of CDRLs and DIDs. Contact the RFPSO for assistance in determining your data deliverables and which CDRLs and DIDs are appropriate.

Contract Security Classification Specification (DD Form 254)

If the proposed contract will generate or require access to classified material, a DD Form 254 is required. The Phillips Laboratory Security Office (PL/SP) has a manual on how to fill out a DD Form 254, and that office is responsible for reviewing all DD Forms 254 for completeness and accuracy. The PL Intelligence Office (IN) and Kirtland AFB Security Police will also become involved in the preparation of the DD Form 254 if it is necessary to release foreign intelligence material to contractors, if contractor access to sensitive compartmentalized information (SCI) is anticipated, or if Operational Security (OPSEC) is required. Contact the Industrial Security Specialist at PL/SP or the RFPSO for guidance on completing the DD Form 254 and obtaining all required approvals.

Instructions For Preparing Proposals (IFPP)

Each Request For Proposal (RFP) will contain a section which tells the potential offerors exactly how the proposals need to be formatted. Consistent formats are required to ensure the inclusion of all required information in the proposals, and facilitate the technical evaluators ability to locate necessary information within the proposal without time consuming searches. In order to maintain equality between offerors on the amount of information provided in each proposal, the IFPP also dictates such information as page limitations, page size, type size, margin size, and the use of fold-out pages. The PCO or RFPSO will have the current guidance relative to the format for providing the proposal information to the potential offerors.

Evaluation Criteria/Source Selection Plan

Evaluation criteria are the items and factors used by the technical evaluators to determine how closely each proposal comes to fulfilling the requirements that are stated in the RFP, and are the foundation used by the Source Selection Authority for selecting the successful offeror. The evaluation criteria must be tailored for each acquisition to reflect the truly essential characteristics which a successful offeror must have, and the requirements which a successful offeror must meet in order to demonstrate the ability to perform all required tasks under the contract.

The choice of evaluation criteria is crucial to the success of the contractual award process and to the success of the technical effort to be undertaken. Evaluation criteria are crucial to the award process because we must be able to clearly determine which proposals meet the stated requirements. We cannot evaluate a proposal against anything other than what is stated in the RFP, and we must evaluate everything which is put forward in the RFP as a requirement. We cannot, therefore, decide that an additional requirement is significant after we've initiated our review. For example, if the RFP requires a certain item to be painted, and an offeror meets the requirement by choosing pink paint, we cannot then decide that blue is the only acceptable color. We cannot change the

criteria published in the RFP without amending the RFP and providing everyone with the additional opportunity to respond (including additional time if necessary). We also must evaluate everything we publish in the evaluation criteria and explain the rationale for our rating. So if we have 25 criteria, and 10 contractors respond with offers, then we will have 10 Technical Evaluations which address our rating of how well each of the 25 criteria have been addressed. The choice of evaluation criteria, therefore, is very important relative to how much we ask for as well as how we ask for it.

Evaluation criteria are also very important to the successful completion of the technical effort. The goal of most acquisitions in the science and technology area is to select the technically superior offeror with superior technology and ability directly focused on the effort we need to have completed. If the evaluation criteria do not provide the correct focus, we may select a contractor that is great in many areas, but perhaps not in the one which we primarily need for a particular acquisition.

Typical Evaluation Criteria include, but are not limited to, such aspects as soundness of technical approach, understanding the requirement, facilities, and personnel qualifications. In addition, cost or price is a mandatory evaluation criterion used to determine the realism, completeness and reasonableness of the proposals. The RFP must specify the relative importance of all criteria.

A formal Source Selection Plan (SSP) provides a vehicle for presenting the evaluation criteria with data on the structure of the source selection team (including names), the identification of the Source Selection Authority, team member roles and responsibilities, and evaluation procedures. For Science and Technology (S&T) acquisitions, Section F of the AFMC FAR Supplement (paragraph 46) modifies certain source selection procedures to specifically make formal SSPs optional. Check with the PCO and RFPSO to determine if a formal SSP is required. Note that even if a formal SSP is not required, all acquisitions require the development of evaluation criteria, the establishment of relative weights for the criteria, selection of a rating methodology (such as color coding or numerical scoring that is then translated into color ratings), and the identification of the source selection team. Each of these must be approved by the Source Selection Authority even in the absence of a formal SSP.

A format for the evaluation criteria (and a formal Source Selection Plan if one is appropriate), along with assistance in completing it for a specific acquisition, can be obtained from the PCO or the RFPSO.

RFP Matrix

In the paragraphs above, we have discussed the Statement of Work (SOW) which tells the offerors what we want them to do, the Instructions for Preparing Proposals which tells them how we want them to submit their offers in response to the tasks in the SOW, and the evaluation criteria which tells them how we are going to evaluate the information they supply with their proposals. The connection between all three of these documents is formalized through the use of an RFP Matrix. The matrix, which is locally developed and required for all RFPs over $5M and any acquisition with sufficient complexity to warrant its use (as determined by the Project Manager and the PCO), has four columns: "SOW Paragraph", "Instructions For Preparing Proposals", "Evaluation Criteria", and "Proposal Paragraph." The first three columns are to be completed by the Project Manager and the PCO based on the development of the applicable documents. The last column is to be completed by each offeror and returned with the proposal. The government and industry benefit from its use. The matrix will maintain the focus of the government contracting and project personnel during the development of the documents, will highlight possible deficiencies in the requirement (as stated in the SOW), will promote the proper emphasis of the evaluation criteria, and will reveal

inadequacies in offerors proposals. Contractors will benefit since the matrix will highlight the connection between the SOW, the Instructions for Proposal Preparation, and the evaluation criteria. By ensuring that offerors address all areas of each RFP we will increase the quality of their proposals, enhance our evaluators ability to follow the proposals, and thereby increase the quality of the technical evaluations and reduce evaluation time

Government Estimate

The requirement for a government Cost Estimate varies between acquisitions based on type of action, dollar value, and complexity. Large dollar value acquisitions (greater than $75M) require a formal Component Cost Analysis (CCA), while smaller acquisitions require only documentation that a sound basis exists for the government contemplated acquisition cost. The greatest advantage to developing an estimate is that it provides a benchmark against which the reasonableness of the offerors proposed price can judged. The government Estimate also enables the Project Manager to more clearly establish funding requirements, evaluate proposals, establish the competitive range, and effect the most advantageous contract award. If the development of an estimate is determined to be inappropriate by the Project Manager and PCO for a specific acquisition, a memo discussing the unique circumstances must be placed in the contract file.

The PL Mission Support Division (PL/PKM) has reference material that can be of significant assistance in developing government Estimates. PKM maintains a collection of reference material which includes pricing data for direct labor rates and indirect costs (overhead). The direct and indirect rates and factors maintained in PKM contain industry averages in the R&D environment. All of the PKM pricing tools are available through the Cost/Price Analysts located in the various PK divisions, as well as from the staff analyst in PKM.

Acquisition Logistics

PLR 80-10 requires a review of all new procurements by the Acquisition Logistics office (PL/XPA). Acquisition Logistics is responsible for ensuring supportability is considered in all PL programs. "Supportability" encompasses the factors that affect a system's or technology's availability for use. The PCO and Project Manager will be jointly responsible for obtaining PL/XPA coordination early in the acquisition planning phase.

Award Fee Plan (if applicable)

One method of incentivizing contractors toward technical excellence is to make the fee contingent upon how well they perform in such areas as technical effort, management control, subcontract management, schedule, and cost control. Periodic reviews are conducted by government evaluators as specified in the Award Fee Plan, and a percentage of the total award fee pool is awarded. This structure is referred to as Award Fee. When the PCO determines that an Award Fee type of contract is appropriate, the criteria against which the contractor will be evaluated must be established as early as possible. The criteria are spelled out in the Award Fee Plan, which delineates what activities must be accomplished to receive various percentages of the pool, and specifies the dollars from the pool which are available for any particular period. The PCO and RFPSO have sample Award Fee Plans, and can assist the Project Manager in developing a plan tailored to their specific work.

Technical Evaluation/Quantitative Evaluation (TE/QE). (applicable to SBIRs, BAAs, PRDAs, and Unsolicited Proposals):

Normally the Technical Evaluation (TE) and Quantitative Evaluation (QE) are performed after all technical and cost proposals are received in response to an RFP. They are therefore not normally a part of the PR Package. In the case of proposals received in response to Small Business Innovative Research (SBIR) announcements, Broad

Agency Announcements (BAAs), and Program Research and Development Announcements (PRDAs), the recommended contractor is known as soon as its proposal is determined to have met the criteria set out in the CBD announcement. For Unsolicited Proposals, the contractor is also already identified when the proposal has met all applicable requirements. The PR Packages for these acquisitions, therefore, must contain the successful proposals, and must also contain the technical evaluators documented review and analysis results when it is submitted to the CO. The cover page on the TE must list all proposals which have been evaluated, must identify how each has been categorized, and must indicate their relative technical ranking in descending order. Categories include proposals which are acceptable and selected for funding (Category I), proposals which are acceptable but not selected for funding (usually due to funding limitations, Category II), and proposals which are technically unacceptable (Category III). The discussion in SOLICITATION, CONTRACT AWARD, DEBRIEFINGS AND PROTESTS differentiates between a TE and a QE, and provides the proper format. Both the PCO and RFPSO can provide information and assistance in developing these documents.

List of Government Furnished Property (GFP) and/or Base Support (if applicable) and Approval

Government policy (according to the FAR) is that Contractors are usually required to furnish all property necessary to perform on government contracts. Approvals must be obtained, therefore, before any GFP or Base Support may be provided to a contractor. The following paragraphs provide a general overview. Contact your PCO or the RFPSO for current guidance.

In many instances accomplishment of a contract requires the use of property (material and/or equipment) which the government already owns or which the government can purchase and then provide to the contractor. Using GFP, rather than having the contractor purchase these additional resources and turn them over to the government at the conclusion of the contract (Contractor Acquired Property [CAP]), has the obvious benefit of avoiding duplication and waste. In instances where the resources are not available and duplication is not an issue, government purchasing generally is more cost effective than contractor purchasing due to the contractors addition of overhead and other expenses to the purchase price of CAP. When GFP or CAP is determined to be appropriate, the PR Package must contain a list of such property, a written justification (signed by the Program Division Chief) documenting why providing GFP or authorizing CAP is in the governments best interest, and the appropriate approvals. (If specially integrated equipment is used to perform tests under a particular contract, and the equipment is not off-the-shelf even if some components in the equipment are commercially available then the justification must state that the equipment is unique to the application.) This documentation is reviewed by the CO, and (if approved) is identified in the contract and included in the contract file.

One major type of GFP is facilities, which may include real property and "plant equipment." Real property includes such items as land, buildings, permanent structures like the Trestle, and utility distribution systems. Plant equipment includes commercially available items such as furniture, desks, computers, oscilloscopes, vehicles, machine tools, and test equipment. If facilities are determined to be required on the contract, local approval is not sufficient, and a special facilities approval must be obtained through HQ AFMC. Although PK coordination is not required on a request for facilities approval, the RFPSO can assist the Project Manager in developing the package.

Contracts that are to be performed on Kirtland AFB usually require the contractor to have the use of office space and other related items referred to as "base support." These items must be listed in the contract, and approval must be obtained from the

base commander before they can be provided.

Procurement Integrity Personnel Lists

Requirements imposed on the PCO include the maintenance of a list of all people who have had access to proprietary or source selection information regarding procurements valued at $100K or more. The Project Manager must make sure that a list is started and maintained beginning with the earliest identifiable date of a specific action for the requirement (such as the development of specifications or the statement of work). This list must be included as part of the PR Package, and any additions to the list after the PR Package is submitted must also be identified to the PCO immediately. In addition, all personnel involved "personally and substantially" in an acquisition regardless of the value will be required to sign an AFMC Form 410, "Certificate of Source Selection Participation." The PCO determines who has had "personal and substantial involvement". While it usually means those people involved in the definition of the requirement and writing of the SOW, the development of the RFP documents, and the evaluation of proposals, the PCO will ultimately determine who will be required to accomplish this certification.

Communications-Computer Systems Requirement Document (CSRD)

The Brooks Act was enacted to minimize or eliminate instances where the government purchases duplicate communications or computer hardware and software, and to eliminate (to the maximum extent possible) instances where the government purchases hardware and software while unused resources are available elsewhere. In accordance with the Brooks Act, and in consonance with our local policy and procedures, all such purchases must be approved by PL/SC who will review the requirement, will search for existing and available resources to accommodate the requirement, and will authorize the purchase of additional resources if no existing resources can be found. The approval is documented on an AF Form 3215, Communications-Computer Systems Requirements Document (CSRD), which must be included in the PR Package. Even when the purchase of new computer hardware or software is authorized, using a prime R&D contractor to do the purchasing is usually not cost effective. The Operational Contracting Division (PKO) has a branch which specializes in buying computer items, and using it is the most preferred method of acquisition.

Sample Subtask. (for Subtask type contracts only)

Certain contracts for R&D services are structured to provide only general instructions (through the SOW) at the time of contract award. Specific technical guidance is then provided to contractors through the issuance of individual work assignments called subtasks. If the contemplated contract is approved as a subtask type, then the RFP should provide one or more sample subtasks. These samples initiate potential offerors to the concept of a subtask contract, provide offerors an indication of the type of guidance which will be given, and (when responses to sample subtasks are required in the technical proposals) provide the government evaluators a benchmark for rating technical proposals. Subtask formats are available from the PCO or RFPSO.

Justification for Other than Full and Open Competition (if applicable)

The Competition In Contracting Act of 1984 (CICA) requires the use of Full and Open Competition (F&OC) to the maximum extent possible. An approach other than F&OC, therefore, is the least preferred acquisition method. If one of the exceptions to F&OC is found to be applicable, the Justification and Approval (J&A) and the Justification Review Document (JRD) must be included in the PR Package.

V. OPSEC CONTRACT CLAUSE

Operational Security (OPSEC) is an analytical process the government uses to deny Foreign Intelligence Services (FIS) information about our capabilities and intentions by identifying, controlling and protecting indicators of plans, programs, tests and other related R&D activities. In response to the continuing threat posed by foreign intelligence collectors, the Department of Defense (DOD) has expanded data protection beyond conventional security disciplines' focus on protection of classified data. Programs have been established to protect militarily critical technologies, control distribution of unclassified technical data, extend OPSEC protection to military services research, development, test and evaluation (RDT&E) programs, and provide for securing of sensitive communications and data. These efforts are directed by National Security Decision Directive (NSDD) 298 and Public Law 100-235, The Computer Security Act of 1987, was established to protect sensitive data.

The majority of Phillips Lab projects will likely only require the use of the basic minimum OPSEC requirements. The basic requirements must be included in the Statement of Work (SOW). The SOW shall be coordinated through the PL OPSEC Program Manager in PL/INK or the individual with the delegated responsibility at PL operating locations. All PL solicitations, including those of its operating locations, shall provide copies of the SOW and DD254 (for classified projects) to PL/INK for final approval. OPSEC Plans or critical information lists shall not be provided in the RFP. This information may only be provided to the successful contractor. PL/INK will assist in implementing OPSEC in appropriate contracts.

VI. FINAL PR PACKAGE

While the PCO and RFPSO can help identify the necessary documents for a PR Package, and can assist in the preparation of the documents, the Project Manager has the responsibility to provide a complete PR Package before the PCO can officially accept it and begin implementation. Acceptance of a PR Package is a PCO determination. All documents must be in the final PR Package with the exception of any documents which the PCO determines to be obtainable after submission. Although most metrics on PCO efficiency measure Contract Lead Time the time it takes for a PCO to get a contract awarded once the final complete PR Package is received, some metrics actually begin as soon as the requirement is identified. For this reason, the Project Manager and PCO must use all of their time wisely to accomplish an accurate acquisition in a timely manner.

VII. PR PACKAGE COORDINATION AND REVIEW.

The PR Package must contain evidence that the contemplated acquisition has been approved by the appropriate official for the type of action and dollar value. Although the PCO establishes who the "appropriate official" is for each acquisition, for most actions within the Lab, the appropriate official is the Technical Director. Coordination by an official within the Tech Directorate provides assurance that the requirement has been recognized and has been included in the budgeting and resource programming for that Directorate. Appropriate guidance by the PCO and use of the RFPSO will reduce the time consumed by required reviews of both the PR Package and the resulting RFP. Since, in most cases, the RFPSO analyst will be involved from the beginning of the process in the development of the documents and the package, they may be approved more quickly. Some reviews and approvals, however, will still have to be accomplished.

Independent Government Cost Estimates (IGCE)

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

Comptroller
Cost Division, PL/FMC
(505) 846-5775; DSN 246-5775

II. OVERVIEW

A key to good program and contract management is the development of a "reasonable" cost estimate of the resources needed to complete a program. There are three types of estimates that help ensure an accurate program estimate is achieved. The chapter on FINANCIAL MANAGEMENT addresses Program Cost Estimates (PCE) and Component Cost Analysis (CCA). This section addresses the third type, Independent Government Cost Estimates.

III. INDEPENDENT GOVERNMENT COST ESTIMATE (IGCE)

An IGCE is an estimate of a realistic price level or value of the supplies or services to be purchased on a particular contract action. The estimate is developed prior to issuance of the solicitation. The IGCE will usually be accomplished using one of the following methods:

-- Parametric: Parametric cost estimating uses historical data to develop Cost Estimating Relationships (CER) which can then be used to model future costs.

-- Analogy: Analogy cost estimating uses historical cost data from like procurement and adjust costs in a detailed manner to account for differences between the systems.

-- Grassroots: Contract cost estimating primarily uses expert judgment and past contract requirements to estimate manpower, material, equipment, travel, computer, and other direct cost needs. These costs are then burdened using direct and indirect rates to calculate the total estimated contract price.

Requirement. An independent government cost estimate is required when the Contracting Officer determines that it is feasible to develop a realistic estimate (FAR 15.803(b)).

Prior to submitting a procurement purchase package, the project manager will present a recommendation including pertinent support on whether a formal cost estimate should be developed and submitted as part of the PR Package. The Contracting Officer will assess the program conditions and make a decision accordingly.

An informal government contract cost estimate is required on all contract actions excluding funding actions and overrun proposals. The project manager will develop this internal estimate to ensure that the Statement of Work (SOW), as written, can be performed within the assigned program cost estimate (PCE).

The IGCE should be a complete and realistic price prediction of the required services or products. It is important that the formal IGCE is a credible cost estimate since, ultimately, this estimate may be one of the pricing techniques used to support or question contractor proposed costs in non-competitive actions. In a competitive procurement, formal estimates will help in establishing the competitive range.

IGCEs should be based on the requirements of the SOW and not the program budget. The budget should only be used for scheduling to accommodate monetary constraints between fiscal years. While it may appear easier to use your program budget as your IGCE to get a PR package

through, it is likely at the time of the quantitative evaluation you will devote an inordinate amount of time explaining variances based on the insupportable estimate. As a result, the IGCE will have to be reaccomplished.

Responsibility.

The IGCE is prepared by the project manager of the using organization. However, prior to developing the estimate see PL/PKM. PL/PKM will spell out their requirements for an IGCE.

PL/FMC specializes in parametric and analogy based cost estimating. PL/FMC can provide in-house cost estimating support to perform IGCEs requiring parametric or analogy based methodologies (i.e. procurement involving hardware/software development). PL/FMC cost estimators can perform the IGCE or provide key assistance, depending on the priority, dollar value, type of procurement and PL/FMC workload. PL/PK price analysts specialize in rate and factor input to the grassroots cost estimate. PL/PK assistance can be obtained from the price analyst assigned to support your directorate. Request for pricing support is made through the 3-Letter contracting division chief supporting your technical directorate.

IV. STEPS TO DEVELOP A GRASSROOTS COST ESTIMATE

To develop a grassroots cost estimate you must first analyze the technical requirements set forth in the SOW and define your contract work breakdown structure (CWBS) in accordance with Mil-Std-881B or other appropriate outline.

Determine the nature of the competition involved, required performance schedule and which SOW paragraphs will be completion effort or level-of-effort. (See ACQUISITION PLANNING for definition of contract types.) Your cost estimate formulation will vary depending on the combination of the above criteria.

Determine which portions of the SOW will be performed in the Basic period and each option requirement.

Determine which SOW paragraphs will be performed at the contractor facility (on-site) and at a government facility (off-site).

Determine the existence of previous or existing contracts which are similar to your SOW. Collect the relevant cost information. Solicit "expert" opinion for those areas where historical data does not exist.

For each CWBS or appropriate combination of CWBS, estimate the necessary amounts of direct labor hours (by specific labor category), material, equipment, computer, travel and other relevant direct cost elements. Separate support schedules should be developed for each of the direct cost elements. Segregate the information by prime and subcontractor, if known.

Develop spreadsheets by fiscal year or calendar year (whichever is most appropriate) for the basic and each option requirement. You will find spreadsheet application software highly useful in performing calculations and formatting the cost estimate. It gives you the flexibility to tailor your estimate according to the particular needs of your procurement. Numerous spreadsheet programs are available to develop your estimate. The following estimating coverage offers a basic framework for the spreadsheet format. The key is to provide sufficient detail of all relevant cost elements.

The IGCE package should include the spreadsheets and all supporting documentation.

V. COST ELEMENT BREAKDOWN. COMPLETION AND LEVEL-OF-EFFORT TYPE CONTRACTS

A government grassroots cost estimate consists of a detailed cost element breakdown. The breakdown includes the resources needed to perform the effort. A

grassroots cost estimate will typically consist of the following cost elements:

Direct Material
Material Burden
Special Tooling
Direct Labor
Labor Burden
Subcontracts
Subcontractor Burden
Consultants
Travel
Computer
Other Direct Costs
General & Administrative Expenses
Cost of Money
Profit or Fee
NM Gross Receipts Tax

Completion Contracts. Your estimate for completion type contracts will separately address all applicable cost elements shown above. Once the CWBS or other appropriate outline has been determined, you should estimate each CWBS or appropriate combinations of the CWBS by cost element level. Separate support schedules should be developed for each cost element, as appropriate. Segregate the information by prime and subcontractor, if known.

Level-of-Effort (LOE) Contracts. LOE requirements must estimate the quantity and type of labor hours needed for each fiscal year of the contract term. The specified level-of-effort incorporates all areas of direct labor resources: prime, subcontract, consultant and interdivision transfers. Remember that the labor hours established in your estimate will be the specific quantity and mix to be proposed by the contractors.

Labor Cost. Once the quantity and mix of labor is determined, you must apply all applicable wage rates, labor escalation, appropriate burdens, fee and tax.

-- Baselined Cost. The term "Baselined" means to set aside a pool of funds to cover direct cost other than the direct labor associated with the contract. Since it is difficult to know the definitive work associated with a LOE action, you are allowed to combine other direct charges under a baselined pool. Typically, the baselined other direct cost pool will consist of material, special tooling, travel, computer usage, all applicable burden cost and taxes associated with these items. Profit or fee are not allowed on baselined costs.

-- Documentation. Separate support schedules should be developed for direct labor cost and baselined cost estimates. For baselined cost estimates use the non-labor cost from similar previous contracts, adjusted for current conditions, or your best judgment of the required amounts. In all cases, your conclusion must be supportable.

VI. COST ELEMENT BREAKDOWNS FOR DEVELOPING GRASSROOTS ESTIMATES

The specific cost elements identified above are explained in greater detail below.

Direct Material. Direct materials includes raw materials, subcontracted items, standard commercial items, purchased parts and inter-organizational transfers.

-- Raw Material. Material that requires further processing such as steel, wood, gases and chemicals.

-- Subcontract Items. Parts, components, assemblies and services produced or performed by other than the prime contractor in accordance with the prime's designs, specifications or directions.

-- Standard Commercial Items. Those items of a particular class or type that are regularly used for other than government purposes. Standard commercial items normally are already fabricated and are stocked in inventory.

-- Purchased Parts. Standard commercial items fabricated by other than the prime contractor. Also included are parts, components, and assemblies produced by others but not to the prime contractor's

design. They are finished products that are often commercially available.

-- Inter-organizational Transfers. Materials sold or transferred among a prime contractor's division, subsidiaries, or affiliates that are under a common control.

Material Burden. Material overhead normally includes the costs related to operating the purchasing department, incoming transportation, receiving and inspection, and handling and storage of materials. Most contractors recover these costs by applying a percentage charge to the amount of direct material cost.

Special Tooling. Tooling refers to jigs, dies, fixtures and test equipment. It does not include machines, perishable tool items, or small hand tools. Any facility or property, regardless of dollar value, that is not determined material, special tooling or special equipment cannot be purchased under your contract without special Air Force Material Command approval. Be sure to read and understand the Federal Acquisition Regulations (FAR), Parts 45.3 and 45.4 on government property and facilities.

Direct Labor. Direct labor includes all necessary direct personnel required to perform the SOW. You must identify the required number of hours and skill level of the various categories of personnel required. For a grassroots cost estimate, you usually determine the manloading required using a standard man-year of effort and then converting your estimate to labor hours. A man-year of direct labor effort usually falls somewhere between 1840-1960 hours per year. One direct labor man-year equals 2088 available hours minus 80 to 120 hours for vacation time, and 40-120 hours for holiday, sick leave, and administration time. The hours subtracted from the 2088 are accounted/paid for through labor overhead.

Labor Burden. Labor burden, also called labor overhead, is normally a percentage charge to direct labor cost. The charge is used to recover expenses related to vacation, leave, holidays, indirect salaries and wages, insurance, and all other indirect costs associated with running a facility which directly supports labor requirements.

Subcontracts. Subcontract efforts are usually for services produced or performed by other than the prime contractor. It is important to recognize that on a bottom line basis subcontract effort is more expensive than prime effort since indirect burdens and fee are applied at both the subcontract and prime levels.

Subcontractor Burden. Some companies choose to recover the expense of managing subcontractors through an overhead expense rate. This rate is applied to the total proposed subcontract cost.

Consultants. Consultant services are used by the prime contractor for providing limited support in specialized technical areas which require the guidance of highly skilled and knowledgeable personnel.

Travel. This element includes all "point-to-point" travel required by the prime and subcontractors in performance of the contract. It includes expenses associated with transportation, per diem and rental cars. In addition to government required travel, it is important to recognize that if subcontract effort is proposed, a prime contractor normally charges for travel costs to and from subcontract location for periodic status reviews.

Computer. Computer time is usually required for performing technical analysis, modeling, code generation and validating test results. Unless you plan to allow contractors to have access to computer resources (time), the estimate should include computer usage charges.

Other Direct Costs (ODC). Describe all other necessary direct cost items that are not specifically accounted for elsewhere.

General & Administrative Expenses (G&A). G&A is another type of overhead

expense whereby a contractor can recover costs associated with a company's general and executive offices, executive compensation, staff costs such as legal, accounting, public relations financial, and other miscellaneous expenses related to the overall business. For estimating purposes, the G&A expense rate should be applied to total cost before cost of money, profit and tax.

Cost of Money. Facilities Capital Cost of Money (FCCOM) is a fee paid to a contractor to create incentive for investment in industrial equipment and facilities. FCCOM is not an interest charge to finance the company. Unless a current contract rate exists, we recommend that in developing your estimate that you apply a FCCOM rate between 1% and 2% to total cost before profit and tax.

Profit or Fee. The term profit is associated with the use of a fixed price contract. Fee is usually associated with the use of cost reimbursement contracts. Profit represents a projected monetary excess realized by a contractor after deduction of incurred costs. Fee usually represents an agreed to amount beyond the initial estimate of total cost. Profit or fee should be applied to all costs excluding cost of money and taxes.

New Mexico Gross Receipts Tax (NMGRT). As a rule of thumb, NMGRT will apply to at least a portion of your requirement. The tax is assessed for the privilege of performing services in New Mexico. The State of New Mexico has a very strict interpretation as to what constitutes performance and presence in the state. We recommend you contact a PK price analyst for guidance in determining whether this tax applies to your requirement. The tax rates vary depending on the location of the business and are updated every six months by the New Mexico Taxation and Revenue Department.

VII. SOURCES OF DATA FOR PREPARING IGCE

The Project Manager is ultimately responsible for developing the government cost estimate. However, specialized assistance throughout PL is available. PL/FMC, PL/PKM and your directorate's buyer and price analyst are available to assist you. These points-of-contact will answer your specific cost estimating questions and provide you access to their specialized data.

One of the best sources of information for your estimates are past or current contracts and associated Cost Performance Reports (CPR) that are similar in nature to your requirement.

Do not call the contractor for pricing information. The Contracting Officer is our "single face" with industry. If you need specific information and cannot obtain it from one of the above sources, the contracting office will contact the contractor (if considered appropriate).

VIII. COST ESTIMATING TERMS

Actual. The labor hours, material and other costs expended on a program unit or item through a specific period of time.

Contractor Budget Estimate. The contractor's estimated cost for performing the required effort based on the understanding of the SOW. Contractor budgetary estimates are not contractually binding. They usually have a higher allowance for risk and are less accurate than contractual bids.

Catalog Estimating. An approach, also known as handbook estimating, involving the use of handbooks, catalogs, and other reference books that are published with price lists for standard, off-the-shelf items.

Comparative Cost Estimating. Comparing the job to be done (or portions of it) to all or part of a completed job for which cost and technical information is available. If enough information is available, complexity factors or ratios may be used to create an estimate.

Complexity Factor. An experience factor used to evaluate the degree of unknowns, difficulty of design or amount of manufacture anticipated with a new end item as compared to a similar item.

Composite Labor Rate. The weighted average labor rate by skill mix.

Constant Year Dollars. A phrase reflecting the dollar "purchasing power" for a specified year. An estimate is in constant dollars when prior year costs are adjusted to reflect the level of prices for the base year, and where future costs are estimated without inflation. A statistical series is said to be expressed in "constant dollars" when the effect of changes in the purchasing power of the dollar has been removed.

Direct Costs. Direct costs reflect items of cost which are specifically identified with a product, service, program, function, or project. Overhead or burden charges are not classified as direct costs.

Documentation. As used under this chapter, documentation is the summary and backup data which supports a cost estimate. The documentation must support the reasonableness of the estimate and/or provide a history of why program costs changed (if applicable). The documentation will also provide a data base for future estimates.

Factor. A numerical expression depicted as a percentage. A factor is used as a multiplier.

Fringe Benefits. The cost of benefits furnished to employees. Examples of these benefits include sick leave, holidays, employment taxes, vacations, retirement, group insurance, union pension, and state workman's compensation insurance. Also included are company contributions to employee savings or personnel benefit plans.

Indirect Cost. An item of cost which cannot be identified with a single product, service program, function, or project. Used synonymously with the terms "overhead" and "burdens."

Labor Hour. A unit of work representing the productive effort of one person in a one hour time period.

Labor-Loading. An estimating technique that projects the number and type of skilled individuals needed to complete a specific work effort.

Overhead Rates. Indirect dollars per hour or percentage of cost relationships that mathematically reflect the distribution of indirect expenses.

Rationale. As used under this chapter, the term rationale is used to explain:

--Why a particular estimating method was selected.

--How a specific estimate was developed.

--Why specific cost history was used and selected.

--Why a given task, job, or estimate is similar to past experience and history.

--Why the estimate is realistic and credible.

Wrap Rate or Fully Burdened Rate. A total rate per direct labor hour that covers labor salary, overheads, profit and tax. A wrap rate may also include factored support for services, travel, and material costs. The specific items included in a wrap rate will vary according to the specific needs of the requirement.

Solicitation, Contract Award, Debriefings and Protests

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

II. INTRODUCTION

Once the Project Manager has completed the final R&D purchase request (PR) package and it is accepted by the PCO, the solicitation phase begins. In R&D contracts, the term solicitation refers to the actual Request For Proposal (RFP) document. There is a great deal of activity for both the Project Manager and the PCO between the time the final PR is accepted and the RFP is issued to prospective offerors.

III. NOTICE OF CONTRACT ACTION (NOCA)

Prior to release of the RFP, we must announce our intention of making the solicitation available to all offerors. This must be done by publishing an announcement in the CBD a minimum of 15 days prior to the actual release in order to allow potential offerors to request a copy of the RFP. Some potential offerors may not have seen the Sources Sought Synopsis, and due to various delays the Sources Sought Synopsis may have been published a long time before the NOCA. We must announce our intent prior to releasing the RFP, and send a copy of the RFP to everyone who requests one. (Even if the current acquisition is a small or small and disadvantaged business set-aside, we must send a copy of the RFP to all large businesses who request the RFP. The RFP may include the source list of potential offerors to enhance opportunities for teaming arrangements and promote investigation into subcontracting opportunities.)

IV. SOLICITATION

Based on all of the information provided by the Project Manager in the PR Package, the PCO generates an RFP which contains a model contract, including all applicable terms and conditions, the Statement of Work (SOW), Instructions for Preparing Proposals, Evaluation Criteria and other information necessary for offerors to prepare their responses. (A complete discussion of the sections of an RFP can be found in FAR 15.406-1.) A closing date and time is specified in the RFP. The RFP is usually issued 15 days (if possible) after the CBD announcement and remains open for a minimum of 30 days. Generally, proposals received after the stated time are late and will not be considered for evaluation and contract award.

V. PRE-PROPOSAL CONFERENCE (PPC)

Preproposal Conferences involve significant amounts of costs for both the government and contractors and should be conducted only for requirements that are technically complex. There is no dollar threshold for conducting a PPC and it is usually scheduled shortly after the RFP is released. The PCO generally announces the proposed PPC in the Commerce Business Daily (CBD). During the PPC, prospective offerors are provided instructions and explanation or clarification of the requirements and specifications. Upon completion of the PPC, potential offerors are encouraged to submit written comments or questions to the PCO. The PCO will address all comments and answer any questions in an amendment to the RFP. A PPC can also be conducted to allow prospective offerors to examine test facilities, view models or inspect government furnished property. Once the RFP is issued, only the PCO is authorized to discuss any aspect of the solicitation with prospective offerors. Should the Project Manager be contacted (after RFP release) by a prospective offeror, the caller must be referred to the PCO.

VI. AMENDMENT OF SOLICITATIONS

Occasionally, the RFP may have to be amended to correct a technical deficiency or add contractual requirements or any number of administrative corrections which may be required. Minor corrections may not require any adjustment to the proposal receipt date. However, major changes which seriously impact the contractors proposal may cause the proposal receipt date to be extended. When the Project Manager amends the SOW or another technical requirement, the package transmitting the change should be routed through the same offices as the original PR.

VII. EVALUATION AND SOURCE SELECTION

Project Managers should familiarize themselves with Section F of AFR 70-30/ AFFARS Appendix BB and the AFMC supplement thereto to ensure complete understanding of the source selection process.

Once proposals have been received, the PCO provides copies to project personnel for evaluation. Most PL source selections are conducted in accordance with Section F of AFR 70-30, "Streamlined Source Selection Procedures" and supplements thereto, such as AFMC FAR Supplement Appendix BB. Section F of AFR 70-30 includes procedures which are peculiar to Science and Technology (S&T) acquisitions. Some small acquisitions are conducted in accordance with FAR 15.6, which provides a very streamlined source selection method within which the PCO is the Source Selection Authority. Since most PL acquisitions are in accordance with AFR 70-30, Section F, the discussion in the following paragraphs deals with those S&T source selection procedures.

The Source Selection Authority (SSA) is responsible for the proper conduct of the source selection process and has full authority to make the source selection. PL/CC has designated thresholds at which certain individuals (generally technical directors) may act as SSA. Since these thresholds are subject to change, project officers should check with the PCO or RFPSO for the latest information. The SSA approves the appointment of source selection evaluation personnel, reviews and approves the evaluation criteria as well as makes the final source selection decision.

The technical team consists of personnel from the technical directorate responsible for the effort and other personnel deemed necessary to adequately evaluate proposals. The technical team is responsible for developing the evaluation criteria, evaluating proposals and preparing the written technical evaluation.

Technical Evaluations (TE)

The Technical Evaluation is the comparison by the technical team of each proposal against the requirements as stated in the RFP. The document itself consists of a short discussion of how many proposals were received, a listing of the offerors, a short synopsis of the relative ranking of the proposals, and individual detailed evaluations of each proposal. Individual proposals are evaluated by comparing the proposal contents relative to the requirements published in the RFP, and documenting the strengths and weaknesses of each proposal through clear references to both the RFP requirements and proposal paragraphs. An acceptable format for the individual proposal discussions includes a short summary of the RFP requirement, a statement of what was proposed, and a discussion of how the proposal compared to the requirement. A short paragraph addressing these points is required for each and every specific point discussed in the Evaluation Criteria portion of the RFP. Comparison of offerors' proposals to each other is not allowed. A draft version of the TE should be coordinated with the PCO to ensure its adequacy.

Quantitative Evaluations (QE)

The QE is an analysis of the contractors cost proposal by the project manager or other government technical personnel. The

analysis covers the quality and quantity of the types of material, labor and other direct costs proposed to accomplish the SOW. The cost proposal must be consistent with the technical approach and requirements of the SOW. The quantitative evaluation is generally performed upon completion of the TE. If additional information is required to complete the evaluation, the project manager should immediately contact the PCO.

Evaluation Results

In the evaluation process, the offerors' omission of data from their proposal could result in the issuance of a deficiency report (DR) or clarification request (CR). An unacceptable proposal (as determined by the PCO and approved by the SSA) may be eliminated from the competitive range and thereby no longer be considered eligible for award.

Technical and quantitative evaluations contain source selection sensitive and/or contractor performance evaluation material. Although they are FOR OFFICIAL USE ONLY (FOUO) they should not be marked FOUO. They should be marked with the more restrictive distribution statement -- B, E or F. Any revision to the initial evaluation must be marked in the same manner as well.

Contract Negotiations

Unless it is feasible to make an award without discussions and upon completion of evaluations (both technical and quantitative), preparations for negotiations will be made. The technical discussion of each proposal's particular weaknesses must be addressed by the technical team. The PCO and Price Analyst will conduct discussions relative to the terms and conditions and contract cost, and the PCO will use this information to develop a fair and reasonable cost for the contract.

VIII. TECHNICAL DEBRIEFINGS

Upon notification to an offeror that the proposal is no longer considered eligible for award because it has been eliminated from the competitive range, or upon notification that another offeror was selected for award, the unsuccessful offeror may request a technical debriefing. In accordance with FAR 15.1003, the purpose of the debriefing is to convey to the contractor those portions of the proposal that were considered strengths and those portions considered weaknesses. The objective is to help offerors understand where their proposals were deficient and aid them in preparing future proposals.

A dry run of the technical debriefing is conducted prior to providing the debriefing to the contractor. All participants must understand their roles in the debriefing to ensure it is conducted properly. Proper conduct of the technical debriefing facilitates contractor understanding of the evaluation process and may preclude protest action.

The PCO chairs the debriefing. The debriefing must be limited to the offeror's proposal in relation to the evaluation criteria and the SOW. Other offerors proposals shall not be discussed and comparisons between proposals is not permitted. The project manager is the spokesperson for the technical evaluation team, however other members may provide answers to contractor questions, if appropriate. The debriefing must center around the technical evaluation and the contractor's particular proposal, and must not disclose personal opinions which may have differed from the final decision.

IX. PROTESTS

Offerors who believe that they have been treated unfairly or that regulatory violations have occurred, may protest the contract award. The protest may be filed at the PCO level or with the General Accounting Office (GAO). The procedures to be followed upon receipt of a protest are outlined in FAR Part 33. Within PK, the Mission Support Division (PKM) is the focal point for all protests.

Contract Administration and Management

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Mission Support Division, PL/PKM
(505) 846-8273; DSN 246-8273

Contract Law and Laboratory Support Div.
377 ABW/JAN
(505) 846-1542; DSN 246-1542

II. RECORDS PRINCIPLES

The best organizational or scientific unit will fail to produce lasting results if the administration is poor. Memory can fail and results not recorded have little value to others. Therefore, the administration involved by each project manager in keeping R&D case files is important so a technical monitor can become familiar with the contract in a reasonable time.

Project Managers and Contracting Officers must file all documents about the contract or project in the right place in the right case file. Unless there is some special reason for doing otherwise, keep only one copy of each document. Your contract records should allow someone to fill in for you should you take leave or become ill.

Use the memorandum for record. Document verbal discussions and telephone conversations of importance with a memorandum for the record. Send copies of these memoranda to your PCO.

Trip reports are also valuable documents in your project folder. Carefully consider the need for any trip in view of the increasing use and availability of teleconferencing facilities. When a trip is required, write good trip reports that clearly specify the events that occurred in connection with your contract during your trip. Send a copy of any trip report to your PCO unless the PCO has determined it is not necessary on any particular contract(s).

Control of data is important. Establish a suspense system which reflects required and actual data deliveries based on the DD Form 1423, Contract Data Requirements List (CDRL), data preparation and delivery instructions.

III. RELATIONSHIPS WITH CONTRACTORS

There are many DOs and DON'Ts concerning the relationship of a project manager and a contractor. Some of these are brought about by law while others come from experience and ethics. You should periodically review DOD Directive 5500.7 on standards of conduct. The Contract Law and Laboratory Support Division (i.e., 377 ABW/JAN) has a copy of DODD 5500.7 and is available to help in unusual situations.

While contractors sometimes consider the award fee determining official "the government", only the PCO can commit the government to expenditure of funds or change a contractual requirement. Thus, the PCO represents the official government to contractors.

As a project manager, you give scientific or program guidance to the contractor within the framework of the written contract. However, you do not direct the contractor in any manner, alter contract terms or obligate funds. Although it is sometimes in the best interest of the government to inform the contractor directly of technical decisions or offer guidance, you must be extremely careful, and you should consult with the PCO.

In practice, the PCO will normally follow your recommendations, but don't forget that you do not penalize or discipline a contractor.

You must not conduct official business or make recommendations regarding business with a company in which you or members of your family have a personal or financial interest. To do so is a violation of federal law. A disinterested person should conduct the business in your place.

While there are some exceptions for minor (under $20.00) or incidental items, as a general rule, don't accept gifts, entertainment, or favors from contractors or potential contractors. The fact that you are not involved in an acquisition matter does not justify you accepting a gratuity since its mere acceptance, regardless of the circumstances, may subject you to penalties. Involvement in any activities which might give the appearance of impropriety must be discussed with the 377 ABW/JAN.

You should report to your supervisor any instances coming to your attention which indicate that a contractor (or representative) is improperly offering any gratuities to government personnel.

Don't use your government position to obtain any advantages for yourself or others, such as selling Amway or other products to contractor employees.

Don't express personal opinions to contractors that may violate Air Force policy. An offeror or contractor may be led to think Air Force policy or treatment will be the same as your views.

Remember that in relations with industry, no body of regulations can cover all possible situations and there is no substitute for integrity and sound, prudent judgment.

IV. COMMUNICATIONS WITH CONTRACTORS

It is vitally important that no member of this Laboratory cause an existing or potential contractor to take action which obligates the government beyond authorized contractual terms. No one can commit government funds unless specifically authorized. The Project Manager does not have this authority. Such action, besides being contrary to public law, may cause personal liability for the resulting costs.

Although contractors realize that only government PCOs are authorized to obligate the government, there have been instances where they have taken communications (that is, technical discussions and direction) to authorize work outside the scope of the contract (including before the contract effective date). The PL project manager is encouraged to be in constant communication with PL contracting personnel on any, and all, discussions with contractors in order to avoid even the appearance of giving unauthorized direction to the contractor.

To prevent unauthorized work, and to provide as a matter of record that the contractor was cautioned at the time of the communication, a disclaimer in each communication is wise. The following is suggested as the last paragraph in written communication, and similar phrasing should be included during all appropriate verbal communication (especially before Technical Interchange Meetings [TIMs] and Program Reviews):

> *"Nothing in this (letter/message) may be construed to constitute a change to the contract. Any questions concerning allowability under, or changes to, the contract must be resolved by the government contracting officer before proceeding in any manner that might obligate the government beyond the existing contract."*

A copy of all written correspondence where the above paragraph is appropriate should be forwarded to the PCO and Administrative Contracting Officer (ACO).

V. RATIFICATION ACTIONS

No one in the Laboratory has the authority to contractually bind the government

except warranted PCOs in PK. An individual from the Laboratory who requests a service or material from a contractor that is not formally covered by an existing contract enters into an unauthorized commitment.

Only the PCO has the authority to direct a change to the SOW. Although the Project Manager has the responsibility to monitor contractor performance, care must be taken to ensure that technical exchanges are simply interchanges of technical information, and are not misinterpreted as unauthorized on-the-spot changes of technical direction.

To settle an unauthorized commitment, the individual may either personally pay for the unauthorized act, or request the act be ratified. FAR 1.602-3 defines ratification as: "... the act of approving an unauthorized commitment by an official who has the authority to do so." At the Laboratory we request ratification through PL/PKM and 377 ABW/JAN by either SMC/CC (less than $1M), or through HQ AFMC/PKA for submission to HQ AFMC/PK (over $1M). Authority to ratify unauthorized commitments of $1,000 or less has been redelegated to the Base Commander (377 ABW/CC).

To request ratification, the individual having committed the unauthorized act should get the current guidance and procedures from PL/PKM.

Ratifications are very serious and usually involve formal disciplinary action to the individual who committed the unauthorized act. Also, if the ratification limitations are not met, the unauthorized commitment may not be ratifiable and may require payment by the individual project manager involved.

VI. MONITORING CONTRACTOR PERFORMANCE

The contract is binding on both parties (the contractor and the government) for performance to the contracts terms. Although some contract requirements by their nature must be less than specific, many others are exact and leave no doubt as to when a delinquency occurs. The contractor must provide the government all that is called for in the time period specified. No one in the Laboratory except a PCO has permission to authorize the contractor to exceed the times specified in the contract. The law requires some compensation (called "consideration") if the contractor fails to fully comply with the contract or if a change is made to the original contract for the benefit of the contractor.

When the contractor is not performing in accordance with the requirements of the contract, or may not be able to perform due to a government action, you must take action in writing to record the circumstances and the action proposed (such as default proceedings or contract extension). Delays should be immediately reported to the PCO as a contract performance delinquency. It is not up to you to decide whether a contract change will be at no cost to the contractor or the government. The delinquency is to be reported immediately to the PCO. Urgency is mandatory because the PCO must normally take action quickly after the due date to avoid risking the government's ability to obtain compensation.

VII. AWARD FEES

Award fee procedures are set forth in FAR 16.404-2 and its supplements. You should review those references and any additional guidance available from PKM and/or PCO for the latest policy and procedures in establishing and administering award fee contracts. As in other contractual matters, once the award fee plan is incorporated in the contract, its provisions must be carefully followed. Particular attention should be paid to meeting the prescribed times for issuing interim award fee assessment letters and for determining the fee award after the end of each award fee period. Contracts containing an award fee will not be awarded until enough funds to

cover the initial increment of award fee contingent liability have been certified and administratively reserved. Appropriate funds should also be available at the beginning of each new award fee period. This rule, plus auditor reports, results in the following requirements.

The anticipated amount of award fee must be committed at the onset of each award fee period. Also, show the entire contract award fee pool amount as pre-committed on the AFMC Form 36 at contract award. The fiscal year designation of award fee should correspond as close as possible to the year in which the effort is to be performed.

The expected fee for an award fee period must be committed before the beginning of each award fee period, unless the fee period extends into the subsequent fiscal year. This means that we must pre-commit at least this amount. Usually the amount needed for the full FY is pre-committed to decrease the number of actions. The Project Manager must prepare an AFMC Form 36 to commit these funds, but the funds will not be obligated until the award fee for the period is determined. If an award fee period crosses fiscal year lines, the pro-rated amount of the potential award fee for the current fiscal year period must be committed. At the beginning of the next fiscal year, the remainder of the estimated award fee should be committed. When the award fee is determined by the fee determining official, the PCO initiates a modification to obligate the committed funds in the amount of the award.

If more funds were committed than actually awarded, the unobligated balance will be automatically decommitted by the PCO if requested by the Project Manager and forwarded to Accounting and Finance for recording. If there is money left on the PR after payment of the award fee, it is possible to use the same PR for the next award fee period.

If more funds are awarded than committed, the Project Manager must prepare a Form 36 to increase the award fee commitment from the applicable fiscal years funds. The committed Form 36 should accompany the award fee determination package.
In the case of an award fee period that crosses two fiscal year lines (this may happen if a period starts late in the FY, is scheduled to end in the next FY but is extended into the following FY because of contract changes, or based on completion of milestones), the amount committed before the beginning of the period must remain committed. This is true even though the funds expire for obligation. If the amount committed is not enough to cover the full earned award fee, funds of the FY in which the effort was performed should be processed. In any case, the total amount of prior year funds ultimately cited must cover at least that part of the earned award fee associated with effort in the prior year.

In summary, although award fees may legally be funded on an incremental basis (as is the work on which they are based), current policy is to fully commit to the extent possible, in the year the award period begins, the best estimate of what will be the earned award fee. This is done to minimize the possibility of losing the funding and incurring a liability for fee on work performed without having the money to pay the fee.

For ease of tracking, it is necessary that award fee funding be provided on an AFMC Form 36 distinct from other contract funding actions (different PR number).

Unawarded fee may not normally be carried forward to increase the award fee pool in later periods.

VIII. ADMINISTRATIVE CONTRACTING OFFICER (ACO)

The ACO duties are delineated in FAR Part 42. In R&D, the PCO retains delegation of engineering surveillance in most cases. The ACO monitors the contractors technical, management, and administrative activities (excluding technical surveillance) to make sure they comply with government

requirements. The ACO can help you understand such things as the contractors cost accounting and management control systems, which should help you interpret reports. Shortly after contract award, you should make an introductory call to the ACO to discuss the new contract and areas of concern or operating procedures. A good time to meet with the ACO is at the Kick-Off Meeting which is held with contractor and government contract and technical personnel immediately after award and before the technical effort begins.

IX. CONTRACT COMPLETION/FINAL DELIVERABLES

When you receive the draft final report, send a copy to the Technical Reports Branch (SUR) for review. Perform your own review, consolidate your comments with any SUR comments, and return the edited draft to the contractor for rework. Repeat this until you receive an acceptable final delivery or service. Send all engineering drawings to the Engineering Branch (SUE) for quality control review and file the original in your R&D Case File. Do not forget to review the CDRL for this item in order to stay in compliance with the time frames for each step of the review.

Receipt and Acceptance of Contract Deliverables. Through the life of the contract you will be receiving products from the contractor. These products can take the form of data, computer software or hardware (equipment, material, or systems). Some products, such as periodic technical and financial progress reports, are received by you and do not need formal notification of receipt and acceptance. Some products, such as hardware items and the final deliverable, require formal notification of receipt and acceptance on a DD Form 250, Material Inspection and Receiving Report.

The contract requires that the contractor prepare the DD Form 250. If contractual work has been completed without receipt of a DD Form 250, you should notify the appropriate CO to have the contractor prepare one and send it. Sections E and F of the contract spell out the deliverable items and to whom the delivery is to be made. Sections E and I spell out the conditions of receipt and acceptance. Report equipment items to PL/SUMSE within three days of receipt so they can set up accountable property records, starting the audit trail.

The DD Form 1423, Contract Data Requirements List, specifies the delivery destination and method of transmittal (DD Form 250 or letter) of all data. All hardware and computer software are transmitted with a DD Form 250 which is prepared by the contractor. The Project Manager's responsibility is to ensure the appropriate offices review the DD Form 250 and then to sign them to acknowledge receipt of the deliverable and to authorize payment. DD Forms 250 that result from requirements on the DD Form 1423 will be routed through SU. DD Forms 250 that result from hardware deliveries will be routed through PL/SUM (referred to as "LMCA" in the next paragraph). When the computational services of PL have been used by a contractor, a copy of the final DD Form 250 will be sent to the chief of SC. Based on that document, the Computer Tape Library will release all stored media (magnetic tape, disk files, permanent files) 30 days after the contract is completed unless specific exceptions are made by the project manager. Computer deliverables identified under the contract are automatically exempt from release. Send to PL/SUMSE the DD Forms 250 that list equipment items to make sure that they pick them up on property records. If you receive a DD Form 250 that has not been processed by one of these offices, immediately contact the appropriate office.

When special delivery arrangements for hardware have been made, the Logistics Material Control Activity (LMCA) receiving personnel will check for external damage and verify number of packages or pieces, then notify the Project Manager that the item has arrived. You may accept the shipment at LMCA or, with concurrence of Technical Services Division (SU), a different delivery point. LMCA receiving personnel

will escort the vendor or delivery agency to the location chosen by you. LMCA personnel will arrange for off-loading or uncrating and then make visual inspection of the contents and verify count or quantity listed in column 17 of DD Form 250. When contents and count are correct, item 22 of DD Form 250 will be signed by the receiving inspector as specified in the contract. When the receiving inspector finds shortages, overages, deficiencies or damages, item 22 of DD Form 250 will not be signed and the inspector will process the shipment under AFMCR 67-8. When the items delivered are covered by a warranty or guarantee, this information will be noted by the inspector on DD Form 250 in compliance with AFMCR 67-8.

Sign item 21b of DD Form 250 only after verifying that the items delivered conform to the contract specification and performance required. When exceptions are noted, prepare a statement of the deficiencies and attach it to DD Form 250; do not sign item 21b. Furnish a copy of the deficiencies and DD Form 250 to the appropriate CO if you or your directorate DD Form 250 monitor cannot resolve the problems. The CO will contact the contractor or vendor to negotiate or discuss the exceptions or deficiencies and arrange for proper settlement. ANY QUESTIONS CONCERNING ACCEPTABILITY OF THE CONTRACTOR'S PERFORMANCE MUST BE RESOLVED BEFORE SIGNING ANY DD FORM 250, PARTICULARLY THE "Z-CODED" ONE, SINCE OUR SIGNATURE USUALLY RELEASES THE CONTRACTOR FROM FURTHER OBLIGATION

The DD Form 250 that accompanies the final deliverable requires special handling by you and LMCA inspectors to ensure proper distribution to Accounting and Finance so that they can pay the contractor promptly.

Receiving Reports.

Many contracts allow for a test and acceptance period after receipt of an item or completion of contractor services. In these cases, the custodian must process a receiving report (DD Form 250 or DD Form 1155, Order for Supplies or Services) within the contract limitations, or immediately after completing contract services. If non R&D services are unacceptable, contact the supporting Operational Contracting branch (PL/PKO); if equipment or supplies are unacceptable, an SF 364, Report of Discrepancy, is filled out. Contact LMCA receiving personnel (Building 1010) for further information on receipt and acceptance instructions.

X. CONTRACT CLOSEOUT

(NOTE: Use of the term "closeout" in this handbook refers only to the end of the technical effort. After PL technical "close-out," the official contractual close out process begins with the ACO and usually no additional action is needed at PL for R&D contracts.)

The final deliverable will be accompanied by a DD 250 which has the letter "Z" added to its identification number. Closeout the contract through the OPR for your directorate and PL/PK when you receive the final financial report with the Z-coded DD Form 250. All contracts completed or terminated require that you verify that the government receives full value to which it is entitled. Also furnish LMCA with a copy of the DD Form 250 so they may also close out their records. A DD Form 250 is not always required (e.g., hardware/software maintenance and some technical non R&D services). In these cases, the final voucher initiates the closeout process. On completion of a contract report all GFE/GFM to LMCA for disposition instructions. Do not transfer or give GFE/GFM to Laboratory personnel or anyone else without approval from the PCO and LMCA. When a contract is closed out and the contractor requests and justifies retention of classified material, you will prepare a final DD Form 254. Read the Industrial Security Manual and contact PL/SP for instructions.

XI. CONTRACT TERMINATION

When a decision is made to terminate a contract short of completion, first hand carry a completed AF Form 3056, Termination Authority, to PL/PK. Next, coordinate the AF Form 3056 with the originating directorate and XP and receive directorate or command approval, depending on the value of the contract. Report GFE/GFM to LMCA for disposition instructions. No one in the Lab except LMCA can relieve a contractor of responsibility for GFE/GFM. Close out the JON when the final technical report is sent for printing and the R&D Case Files have been readied for staging/retirement. See the chapter on PROGRAM RECORDS for additional information on R&D Case Files.

Operational Contracting

I. POINTS OF CONTACT

Kirtland AFB:

Directorate of Contracting
Operational Contracting Division, PL/PKO
(505) 846-4531; DSN 246-4531

The PL Directorate of Contracting (PL/PK) at Kirtland AFB in Albuquerque accomplishes the acquisition actions and contract support for those segments of PL that are stationed at Kirtland, many of the actions for the PL Propulsion Directorate at Edwards AFB CA, and many actions for tenant organizations on Kirtland. Some acquisition actions and contract support for the Propulsion Directorate are performed by the contracting organization at the AF Flight Test Center (AFFTC) at Edwards AFB. The acquisition actions and contract support for the PL Geophysics Directorate at Hanscom AFB MA are performed by the contracting organization at the Electronic Systems Center (ESC) at Hanscom AFB. This chapter addresses only the documentation required in the PR Packages submitted to the PL Directorate of Contracting at Kirtland. The other contracting organizations mentioned above have their own guidance, and the applicable guidance for each of these organizations should be obtained and followed for acquisitions which they will accomplish.

II. OVERVIEW

Operational Contracting is the agency through which base units acquire supplies, equipment, services, and construction not otherwise furnished by supply agencies or depots. The Operational Contracting Division purchases commercially available items, construction, and services which the Air Force and Department of Defense (DOD) have determined are more economically purchased and managed at the local level. We use local purchase procedures to buy commodities, construction, and services at the lowest overall cost through formally advertised Invitation for Bids (IFB) and negotiated RFP acquisition procedures. Contracts awarded by Operational Contracting span the full spectrum from automated data processing equipment (ADPE) and multimillion dollar exotic state-of-the-art products to major construction and renovation contracts.

The Operational Contracting Division (PL/PKO) is composed of four branches. They are the Commodities Branch (PL/PKOS), Construction Branch (PL/PKOC), Services Branch (PL/PKOV), and the Base Contracting Automated System (BCAS). BCAS is the computer system which records and tracks financial and delivery data for purchases made through Operational Contracting.

III. COMMODITIES

The Commodities Branch (PL/PKOS) procures small (under $25K) and large (over $25K) purchases. Commodity items include such things as aircraft equipment, woodwork tools, furniture, and medical supplies and equipment. The small purchases are identified by stock classes 16-99, which are assigned to various purchasing agents and contract specialists. Purchases in excess of $2,500 are competed. Sole source procurements (under $25K) must be accompanied with a small purchase sole source justification letter signed by a 2-letter office symbol, which will be reviewed and evaluated by a PCO.

Furniture, storage equipment, signs and commercial service items must by law be procured from UNICOR (Federal Prison Industries). Any items not being procured from UNICOR requires a waiver letter from UNICOR (to accompany the purchase request) unless the requirement falls within several very specific exceptions. Your PCO

can review your requirement to determine if a waiver is necessary.

Complete purchase request packages are required for large purchases, including a funded Form 9. The government's minimum salient characteristics/specifications shall be attached to the purchase request. Large purchases are synopsized and published in the Commerce Business Daily. The Contract Administrative Lead Time (CALT) is approximately 90-120 days depending on the complexity of the item being procured. When using other than full and open competition procedures, a Justification and Approval (J&A) document must be prepared according to FAR 6.3 unless the requirement meets criteria listed in FAR 6.001. The PCO shall ensure a Justification Review Document (JRD) signature page accompanies all J&As submitted for approval.

IV. CONSTRUCTION

The Construction Branch (PL/PKOC) procures major (over $25K) and minor (under $25K) construction efforts.

The construction process is divided into five major phases:

Design phase

Pre-bid proposed bid

Bid/negotiation phase

Award phase

Construction phase

While the content of specific acquisitions will vary according to circumstances of the acquisition, the information required for a typical construction project include: project specifications, drawings, independent government cost estimate, performance period requirements, environmental considerations, security considerations, milestones for the acquisition process, and identification of participants in the acquisition process. In order to accurately identify the acquisition requirements and understand the roles and responsibilities of other team members, we recommend the Project Manager meet with the Chief of the Construction Branch before any work on the project package is started.

As in all acquisitions, preparation is the key ingredient to success. The key participants in the acquisition process need to begin planning and developing their strategy as soon as the need for the project is identified. Preparation for the acquisition is a team effort requiring inputs from the Project Manager, Research Facilities Engineering (PL/DE), Base Civil Engineers (BCE), and contracting. While the PCO maintains overall control of the plan, the technical elements of the requirement are the responsibility of the Project Manager and BCE.

The average lead times for construction projects range from 90 days to 120 days. All acquisition packages must be coordinated with PL/DE and BCE.

V. SERVICES

The Services Branch (PL/PKOV) of the Operational Contracting Division acquires a variety of services and information processing supplies and services for units located on Kirtland Air Force Base. A services contract is one where the government engages the time and effort of a contractor to perform an identifiable task rather than to provide an end item of supply. The Services Branch consists of two sections.

The Services Section acquires all services for the base and tenant organizations. Services exceeding the small purchases threshold of $25,000 use formal contracting procedures (either sealed bidding or negotiated procurements) depending on the requirement. These services include a diverse range such as refuse collection, military family housing maintenance, food attendant services, janitorial services, hazardous waste management services, any type of equipment maintenance, and

equipment leases. Services less than $25,000 are acquired using small purchase procedures. These services include such items as annual maintenance of equipment, repairs, vehicle leases, subscriptions, cellular phone hardware, software, supplies, and office relocations.

The Federal Information Processing (FIP [or ADPE]) Section acquires hardware, software, supplies, and services relating to FIP. Most actions do not exceed the small purchase threshold, although they do issue delivery orders against GSA multiple award schedules.

Each section requires a complete purchase request package before a purchase/delivery order or contract can be awarded. Small service actions require a funding document with funds committed by the appropriate finance office, an adequate description of the services required, a suggested source with address and current telephone number, and a directorate point of contact. The FIP Section also requires a Communications-Computer Systems Requirements Document (CSRD) number from the AF Form 3215 unless the requirement is for supplies or one-time repairs, and at least two sources if the items are on GSA multiple award schedules. The large service actions require several components for a complete purchase request package. It is recommended that you contact this section well in advance to discuss the necessary components for your requirement.

Routine small service and FIP actions require 30 days to process from time of receipt of a complete package at the contracting office to award. Large actions (in excess of $25,000) take from 90-120 days from receipt of a complete package to award. These time frames can vary depending upon the nature of the requirement.

VI. CONTRACT ADMINISTRATION

After a contract has been awarded many contractual matters must be addressed such as contract performance monitoring and payments to contractors. This oversight, called the Contract Administration phase, continues from contract award until the contractual performance is concluded and the contract is closed out.

Each Operational Contracting Branch handles administrative contractual matters for contracts awarded by them. During this phase, the contract terms and conditions are the controlling references for all matters concerning performance.

Methods used to administer contracts depend upon the length of performance, complexity and urgency. Key ingredients to effective contract administration include communications, negotiations, modifications, claims, value engineering and contract close-out. Key personnel who monitor performance are the Contract Administrator, Quality Assurance Evaluator (QAE), Contracting Officer and the Functional Area Chief (FAC). (A FAC is the commander or functional director of the organization having responsibility for the actual performance of a given service). These individuals should communicate frequently.

The Contracting Officer is the only government representative that can clarify, make or infer legal interpretation on the scope or intent of the contract requirements, terms or conditions; approve contractors procedures; authorize expenditure of funds; levy or impose any task not specifically provided for in the contract; enter into contract agreements with the contractor; issue directives or directions to the contractor; and take formal action against the contractor for unsatisfactory performance.

Computational Services

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Computational Services Division, PL/SC
(505) 846-0992; DSN 246-0992

Edwards AFB:

Operations and Support Directorate
Computational Services Division, PL/SC
(805) 275-5110; DSN 525-5110

Hanscom AFB:

Operations and Support Directorate
Computational Services Division, PL/SC
(617) 377-4545; DSN 478-4545

II. OVERVIEW

The Computational Services Division is responsible for computer systems and communications networks required to support the high technology programs and operations within DOD and at Phillips Laboratory.

SC interfaces the multiple computer networks located within and external to Phillips Lab to provide High Performance Computing (HPC), E-mail, and office automation support. SC currently provides network management of the Defense Research and Engineering Network (DREN).

In addition, SC operates multiple database and archival services to support the Lab's extensive managerial requirements. For example, the Phillips Lab Frequent Analysis System Tracker (FAST), the Travel Order Generation System (TOGS), and the Job Order Cost Accounting System (JOCAS) databases are networked by and reside on computer systems supported by SC.

SC also provides a file storage system that is accessible from workstations and microcomputers.

SC provides local support and network access to the DOD HPC capabilities located external to Kirtland AFB. This HPC support includes local mass storage, scientific visualization, and user assistance on network connectivity, software applications, and scientific libraries.

User assistance and troubleshooting is available for all SC operations. SC provides Help Desk assistance for all network services to include E-mail, HPC, and office automation. In addition, the SC Help Desk provides user account support and develops customer training handouts for system operations. SC also supports Phillips Lab by contracting for maintenance on common computer systems, including personal computers.

SC serves as the Phillips Lab focal point for all computer hardware, software, and computer services acquisitions and manages the inventory of all Phillips Lab ADPE assets.

SC schedules, operates, and maintains the Kirtland Video Teleconferencing Center (VTC) which services both the Lab and other tenants of Kirtland AFB.

Phillips Lab telephone and frequency management responsibilities are performed by SC personnel.

As part of the Phillips Lab's community service responsibilities, SC provides computer support to local high schools by operating computers and networks in support of the Fundamental Skills Intelligent Tutor program and by supporting the New Mexico High School Super-computer Challenge.

In networking language, SC is the "Tie that Binds". SC provides networking and computer services that allow the Lab to communicate and to access necessary HPC computational resources.

III. CUSTOMER SERVICES BRANCH (SCU)

SCU serves as the focal point for all communications-computer systems customer services. They manage and operate a hotline and help/trouble desk for Phillips Lab user assistance. In doing so, they diagnose, solve, and provide technical solutions for hardware, software, and interface problems on local area and wide area networks, IBM compatible PCs, UNIX workstations, and Macintosh systems. SCU initiates and monitors the PL-wide computer maintenance contracts, to include contract oversight, call-ins, invoicing, and consolidated reporting for microcomputers and workstations. They provide documentation and training for Phillips Lab unique systems. SCU is the PL ADPE inventory office and can assist in re-use or in excessing of ADP equipment. SCU is also the PL focal point for the Management Information Systems Technical Support (MISTS) contract and can advise on its use for a variety of computer related services. SCU advises on current and future systems acquisition issues and is the PL point-of-contact for planning and requirements processing (PR packages) for all computer-related acquisitions. Listed below is a summary of how to use SCU Services:

Customer Service Center (SCUC), Help Desk: Call DSN 246-HELP, for microcomputer and workstation hotline and help/trouble desk support. Call DSN 246-HELP to report requests for repair of computers supported by the SC managed Phillips Lab-wide ADPE maintenance contracts. In addition to providing troubleshooting support, SCUC provides a PL Computer User Room with various computers/printers available for your use. SCUC has many short educational handouts available on various computer topics of Lab wide interest (e.g., E-mail).

Communications-Computer Systems Requirements (CSRDs): CSRDs are processed by the Program Management Section (SCUP). This computer requirements function involves reviewing Phillips Laboratory requirements for ADPE and software/computer services, as submitted on AF Form 3215, to determine compliance with standard systems and architecture's. All PL-K computer hardware, software and computer services acquisitions, including those obtained via R&D contracts must be coordinated with SCU prior to contracting action being submitted. Please contact SCUP for instructions on how to process an AF Form 3215.

Computer Acquisition Focal Point for PL: After you have an approved AF Form 3215, CSRD, you may process your computer purchase request to SCUP. These are typically submitted on AF Form 9. SCUP processes all computer-related purchase requests at all dollar levels for PL-Kirtland and will assist you in determining acquisition lead-times, in acquisition planning, in use of standard contracts (example: Desktop contracts), and in the documentation required for your purchase request packages prior to submission to the contracting center. SCUP initiates and oversees PL-wide ADPE maintenance contracts and will assist you in adding your microcomputers and printers to these contracts so your computer is covered for repairs. **SUBMIT ALL COMPUTER-RELATED ACQUISITIONS TO PL/SCUP.** If you need assistance SCUP has personnel who can meet with you to discuss your computer acquisition needs, and has sample formats you can use. Following is a checklist of documentation typically needed for computer acquisitions (attachments to AF Form 9):

--Specifications (unrestrictive) or statement of work (SOW) in the proper format are required for buys with a total estimated amount of $2500 or greater, unless purchase is from a mandatory contract.

--ADPE stock class "70" should be put on the AF Form 9, along with the approved CSRD number.

--IF APPLICABLE, a sole source justification for buys estimated at $2500 or greater should be attached. If the sole source is greater than $25,000 a more formal document called a JRD is required.

--For maintenance buys, submit a list of the equipment to be covered, including description, serial numbers, locations, SOW detailing type of service (i.e., response times, etc.) and point-of-contact (ensure lists from preceding years are up to date).

--IF URGENT, submit a Letter of Urgency signed by the proper PL office.

--If ACCOUNTABLE ADPE is being purchased, submit inventory forms signed by your ADPE custodian along with the purchase request.

--Manpower coordination is required if services are estimated at $100,000/year or greater.

--DD Form 254 security form is required if contractor access to classified data is needed during performance of the contract.

--If over $25,000/year total estimate for equipment, software or computer services, other documentation may be required (please contact SCUP personnel for help).

PL Computer Inventory (SCUP). The PL Equipment Control Officer (ECO) for ADPE is located in SCUP and manages the over 100 PL ADPE custodian accounts. Please contact SCUP to establish a custodian account, to update inventory records, to obtain inventory reports, to reuse computer equipment or software, and to excess computer equipment.

IV. SYSTEMS ENGINEERING BRANCH (SCS)

SCS installs, tests, monitors, and maintains scientific and engineering software in support of Phillips Laboratory research personnel. SCS personnel administer and provide E-mail and data automation capabilities to the Laboratory. Such capabilities include networked file storage, file and printer sharing, calendar functions, word processing support, etc. SCS personnel provide computational support to PL/XPPH for major Phillips Lab database management systems: FAST, TOGS, and JOCAS. SCS operations are geared toward improving the functionality of operating systems and for meeting present and future computational requirements. SCS monitors the contractual performance of the integration contractor responsible for the daily operations and maintenance of SC computers in support of Phillips Laboratory scientific and management information systems operations. Scientific visualization tools are also provided and supported by SCS. Listed below is a summarization of this capability:

Comprehensive Graphics. PL/SC provides a comprehensive set of computer graphics-related facilities on both the central site systems, and on the DOD HPC computing sites such as the Waterways Experiment Station (CEWES).

Central Printing Capabilities. The central site printing capabilities provide Postscript printing capability (a variety of formats are available, including single sided, double sided, and 2-up, to name just a few), in both black/white and very high quality color; the color printers are also capable of generating very high-quality view graphs. The printer software automatically recognizes a number of industry standard file formats, such as CGM, Postscript or regular text, and translates them to Postscript automatically.

Visualization Laboratory. A state-of-the-art visualization laboratory offers capabilities for creating videotapes of computer-generated animations, with multiple-source audio/visual compositing including multi-channel sound mixing, video effects such as wipe patterns, etc. Users can make arrangements to use the facilities (which include a Silicon Graphics Iris (SGI), a high-capacity laser disk, and VCRs) once they have been trained on the use of the equipment, or SC will provide help on a time-available basis.

Visualization Room. The SC visualization room, which is available to all PL users during normal duty hours (and outside of normal duty hours with prior arrangements), offers a number of capabilities,

including a 400 DPI color scanner, Microsoft Windows-based image processing software, X-windows terminals, a Macintosh, NeXTStep/Intel (including a number of image-processing programs) and Postscript laser printing.

Continually Enhanced and Readily Available. The computer graphics capabilities, which are continually being enhanced by on-site specialists, and are available on one or more of the SC server machines, include a wide variety of vendor packages such as NCAR Graphics, GPLOT, Wavefront, and IBM's Data Explorer, as well as a comprehensive set of publicly available software obtained from the Internet and made available to the Phillips Laboratory community. This includes tools such as the NCSA Image Tools, image viewing/conversion utilities such as XV and XLIMAGE, and a number of plotting packages such as XYPLOT, XFIG, and many others. Animation capabilities are provided by a number of locally-developed tools, using a PL-patented technique for compressing and playing back raster animations on various hardware platforms, ranging from PCs to supercomputers. To aid in program development, graphical user interface (GUI) tools are available to design programs which use the OSF Motif X-11 widget set. These capabilities are freely accessible to any user with an account on the SC central site computers. Many of the non-proprietary tools are also kept on-line in the Phillips Laboratory Common File System (CFS), which may be accessed by any PL user from anywhere on the Internet.

V. COMMUNICATIONS ENGINEERING BRANCH (SCC).

SCC designs, installs, manages, and maintains Phillips Laboratory communications-computer local area network (LAN) systems and connectivities. This includes acquisition and installation of communications circuits, cable, telephones, pagers, radios, cryptographic equipment, and keying materials. SCC personnel engineer, install, maintain, and troubleshoot fiber optic and copper circuits supporting PL computer networking operations. They provide network control and service restoration management for common-user communications-computer services, including services after normal duty hours. SCC provides network management of DREN and connectivity to the internet and other external networks. They develop and coordinate long-range communications-computer systems planning documents in support of Phillips Lab computational and HPC requirements. SCC serves as the PL focal point for the Defense Data Network. SCC manages and operates the Phillips Lab Video Teleconferencing Center (VTC) providing real-time video conferencing, face-to-face, with VTC users worldwide. In addition, SCC acts as liaison between the Phillips Laboratory and the Base Communications Squadron. In doing so, they oversee the Laboratory Telephone Control Officer Program and validate radio frequency (RF) allocations/assignments and resolve RF interface problems.

VI. COMMUNICATION SERVICES (OL-AC Edwards AFB Specific)

The SC division is responsible for computer systems and necessary communication networks to support technology programs at PL. Computer center operations, programming, and mathematical analysis are additional SC services. SC also provides direction in the procurement of data acquisition and control systems used in experimental areas. SC is responsible for numerous computer and related systems contracts for acquisition and maintenance, and the Data Services Contract supporting this location. This is accomplished through the following subordinate organizations.

VII. ENGINEERING AND OPERATIONS BRANCH (SCE) (OL-AC Edwards AFB)

This branch is responsible for the configuration, design, installation, operation, and maintenance of the Local Area Network (LAN) and Wide Area Network (WAN) that provides video teleconferencing (Picture-Tel)

and the Defense Data Network. SCE is also responsible for the controlling and accounting of all Automatic Data Processing Equipment (ADPE) at OL-AC, managing various hardware maintenance contracts, and the processing of all experimental area data recorded on analog and digital tape, and on disk packs. This branch also assists in the configuration of computer hardware systems, and in the design, development, and maintenance of specialized electronic circuits. The above efforts are accomplished through a group of well-qualified in-house and on-site contractor engineers, analysts, and technicians. They are available to assist in specialized computer, data processing, or development needs. Requirements must be coordinated with the Engineering and Operations Branch at the earliest possible date to assure timely support.

Communications/Computer Network. Local Area Network (LAN). The OL-AC LAN environment provides users an easy communication capability between minicomputers, microcomputers, and/or peripherals. Users can be connected to ethernet backbone either directly or indirectly through file servers, and terminal servers.

Wide Area Network (WAN). The OL-AC WAN allows users to communicate and access numerous facilities around the country. The high speed T1 link 56 Kilo-Byte-per Second (KBS) to Phillips Laboratory at Kirtland allows users remote video teleconferencing capability. In addition to T1 link to Kirtland there are two 56 KBS lines to NASA facilities. OL-AC is also a part of the DDN via MILNET.

Video Teleconferencing. A video teleconferencing facility (Picture Tel) is available for use between OL-AC, OL-AA and Kirtland.

Available Computer Hardware

--Supercomputer. Supercomputers located on the DREN can be accessed through terrestrial line T1 link. Application for access is processed directly through PL/SC at Kirtland. Assistance for access can be obtained from OL-AC PL/SCE. Also, see the OL-AC Data Center User's Guide.

--Minicomputers. Several Digital Equipment Corporation VAX computer systems (two VAX8650s, one VAX785, and one Micro VAX3400), and the HP750 (a cluster of HP machines) are available for use for scientific analysis and management information system processing. The current configuration, memory, software, and peripherals are described in the OL-AC Data Center User's Guide.

--Printers/Plotter. Various advanced technology printers and plotters are accessible through LAN from mini, and/or microcomputer. Current printers and plotters are listed in the OL-AC Data Center User's Guide.

Computer Operations

The Computer Center, located in Building 8352, is operated under the Communications-Computer Systems Division (SC) by PL/SCE. The Communications-Computer Systems Division is assisted in its function by the Data Services Contractor. Computer jobs are normally processed in the order received with experimental data having priority over most other work. The operating system software gives highest priority to remote interactive activity.

OL-AC Data Center User's Guide. Detailed descriptions of operations services, equipment, normal operating hours, etc., are contacted in the Data Center User's Guide, and copies can be obtained from the Communications Computer Systems Division Office, or the programmer of the day (POD) at extension 5113 at Edwards AFB.

Computer Authorization. Access to the OL-AC central computers is through a randomly generated password system. Potential users must have their branch office forward to the Communications-Computer Systems Division a request for password for prospective users. Upon approval, the Communications-Computer Systems Division will issue to the individual user a password and enter the

user into the system directory. The password should only be used by the individual to which it is assigned.

Digital/Analog Tape Library. The central computer operation facility, located in Building 8352 has storage room for approximately 6,000 digital and analog (FM) tapes. Computer users who require magnetic tape data storage may require that tapes from this library be assigned to them at the time they run their jobs. A listing of tapes assigned to each user is always available, and should be reviewed by the users periodically to determine which tapes are no longer needed and can be released and re-used. Maximum tape retention time without special authorization is two years from date of creation. Further information can be found by consulting the OL-AC Computer User's Guide or call the POD at extension 5113 at Edwards AFB.

Analog Data Recording and Processing. IRIG standard, 14 and 28 track, intermediate band recorders are used to process FM data. At 60 IPS, these instruments have a frequency response of 300 Hz to 300 KHz on direct record and 0 to 20 KHz on Intermediate Band FM, and 0 to 80 KHz with Wide Band I FM. The FM recording may be either Proportional or Constant Bandwidth. The output of the analog tape is processed to a standard 8 inch oscillograph or used as an input to the Spectrum Analyzer.

-- Analog to Digital Data Conversion. FM Analog data can be converted to Digital form on a 16 channel Analog to Digital (A to D) system. The throughout sampling rate of this system is 50 KHz although the sampling rate of individual parameters may vary. Digital data is recorded on 9 track 800 Bits-Per-Inch (BPI) tape. The initial setup for processing Analog to Digital data will take two to four hours with subsequent tests being processed in one to two hours.

--Digital to Analog Data Conversion. Four channel Digital to Analog conversion is available for making FM control tapes.

--Spectrum Analysis. A special Dynamics Model 375 spectrum analyzer is available and accepts two channels of real-time or FM tape input and displays data on a CRT screen. A hard copy of real-time data is available in a "Waterfall" format or data can be transferred to an X-Y plotter. Fifteen functions can be performed by the analyzer. Some of the more common ones are:

Power spectral density
Fourier transform
Cross correlation
Auto correlation
Nyquist diagnoses
Phase shift plots
Coherent power output

Closed Circuit Television. The Data Services Contractor provides maintenance for closed circuit monochrome, color, and video tape systems including Phillips Laboratory Visual Information System (PHILVIS). Maintenance assistance includes troubleshooting and shop repair. A spare parts inventory is maintained. For further information and assistance, call extension 5298 at Edwards.

VIII. SOFTWARE AND ANALYSIS BRANCH (SCS) (EDWARDS AFB)

This branch provides for computer programming, data reduction, mathematical modeling, simulation, statistical analysis, data accuracy, and real-time data acquisition and control. This effort is accomplished through a group of well-qualified in-house and on-site contractor programmers/analysts. The resolution as to whether a project will be accomplished by the contractor or the Software and Analysis Branch personnel is the responsibility of the Software and Analysis Branch Chief. A written specification in the form of a letter, engineering requires, or approved Project Directive is normally required before work will be started. The requirements can be generated at a coordination meeting. For any of the above support requirements, contact the Branch Chief at extension 5674.

Real-time Computer Programming. The real-time computer programmer functions as a communicating link between the project manager, development engineer, and the computer. As project manager, you may give the programmer a broad statement of the problem and its constraints. He will analyze the problem, flow chart the solution, and discuss it with you for approval. He will then code the problem for the computer and document the input/output formats.

Computer Systems Programming Functions. The systems programmers provide maintenance and updates to the PL computer center operating systems and system libraries. The Systems Programmers will answer any technical questions regarding any of the PL computer center equipment. Project Managers who desire to do their own programming may obtain assistance from the computer systems programmers. In addition, help on specific programming questions may be obtained from any member of the software and Analysis staff or the Contractor Scientific Data Analysis group.

Supercomputer Analyst. The supercomputer analyst provides consultation on software creation/conversion.

Sources of Computer Programs. A software abstract system exists that lists all PL programs currently in use. PL is a member of several computer users groups and maintains an index of programs available through other organizations. In addition, the programming staff includes members of other groups such as the Statistical Program Evaluation Committee (SPEC) that make their programs available for our use. For more details on available programs, call extension 5201 at Edwards.

Statistics and Design of Experiments. The programming staff has several mathematicians with the capability to assist the project manager in the application of statistics to the design of experiments. For example, calculations of the number of runs required to obtain any given degree of confidence in the results; application of correlation analysis to test data; analysis of variance, etc.

Data Reduction. The computer software group also provides data reduction services, including:

--Conversion of digital acquisition data to engineering units.

--Calculation of performance based on engineering unit results.

--Programs to convert analog data to digital data.

--Real-time data acquisition and control programs for PL systems.

Computer Security. The Software and Analysis Branch monitors overall OL-AC computer security. This includes data handling, computer access, facility access, risk analysis, etc. Call extension 5119 for assistance at Edwards.

IX. PLANS AND POLICIES BRANCH (SCP) (EDWARDS AFB)

SCP is responsible for all plans and policies relating to computer system planning and acquisition.

The Communications-Computer Systems (C-CS) Plan is a picture of the computer system architecture that is located at this facility and a 5-6 year projection of the future C-CS architecture. SCP is also responsible for insuring that all computer acquisitions follow the policies and procedures of the Phillips Laboratory, HQ AFMC, and HQ AF.

SCP will assist OL-AC personnel in preparing all C-CS acquisition forms, determining if DOD C-CS requirements contracts will satisfy user requirements, and assist users who require waivers from existing requirements contracts.

SCP serves OL-AC as the ADP Equipment Control Officer (ECO) with the responsibility for ADPE inventories (automated and

physical). The ECO will work with assigned ADP equipment custodians to insure that all equipment is tracked and accounted for.

The SCP Branch Chief serves as the Contracting Officer's Technical Representative (COTR) for the Data Services Support Delivery Order to the Management Information Systems Technical Support (MISTS) contract. This contract effort provides the following services to personnel at this location: Scientific Processing, Analysis, and Programming; Management Information Systems; System/Network Maintenance; Data Processing Equipment Operations; Technical Information Processing, and Graphical Product Services.

Education and Training Services

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Education and Training Office, PL/CCT
(505) 846-9991; DSN 246-9991

Edwards AFB:

Operations and Support Directorate
Manpower & Personnel Branch, PL/DPC
(805) 275-5010; DSN 525-5010

Hanscom AFB:

Operations and Support Directorate
Technical Services, PL/TSR
(617) 377-4788; DSN 478-4788

II. OVERVIEW

The goal of the PL Education & Training Office (PL/CCT) is to assist PL personnel in obtaining continuing education and training necessary to meet the Laboratory's goals. Focal points are OL-AA PL/TSR at Hanscom AFB and OL-AC PL/DPC at Edwards AFB with PL/CCT at Kirtland AFB to do the job. Services provided at all three locations include contracting for on-site short courses, processing of DD Form 1556s (Requests for Training), and providing general information on educational opportunities. These will be discussed first. Kirtland-specific services will be discussed separately and are covered in greater detail in the PL Training Handbook.

Definitions/Restrictions

All full-time employees are entitled to take advantage of appropriate education and training opportunities. Training refers to non-credit courses of any duration whereas the term Education applies to credit-bearing courses. Seminars and conferences are not considered training because they aren't limited to one topic or presented by an instructor. However, separate training courses with additional fees are often offered in conjunction with a conference. All government-funded civilian education and training must be related to the present job not for promotability and is approved by processing a DD Form 1556. Military members must work through their Base Education and Training Office for monetary assistance for education courses. Military training is approved via the DD Form 1556.

Contracting for On-Site Courses

Non-credit short courses can be offered on-site if there's enough interest and funding. Bring your requirement to the appropriate focal point for assistance in procuring the class. You'll need to know how many people you need to train, what topics you want covered, what dates are acceptable, and how much you can afford to spend before we can do our job.

Processing of DD Form 1556s

The DD Form 1556 is titled REQUEST, AUTHORIZATION, AGREEMENT, CERTIFICATION OF TRAINING AND REIMBURSEMENT because it does it all if used properly. The PL Training Handbook and PL Education and Training policy letter go into the details of its use and completion. Basically, a 1556 must be submitted to request approval for any training and all civilian educational courses whether or not there's a cost associated. Final approval for civilian training lies with the servicing Civilian Personnel Office.

Providing General Information

We do our best to provide information on education and training opportunities. If you know of a good offering, please bring it to our attention. We'll try to spread the word. We're also the focal point for information on the AF Acquisition Professional Development Program (APDP).

III. KIRTLAND-SPECIFIC SERVICES

On-Site Computer Training. A survey is conducted at the beginning of each fiscal year to determine the need for training on various computer software packages used within PL Kirtland. Most classes are held in our computer classroom. Those requiring different equipment are contracted for with local businesses or schools. Make sure you get your input in on the annual survey. If unexpected requirements arise, we'll do our best to accommodate; however, you may have to provide the funding.

On-Site Commercial Courses. We try to fund a few general interest short courses each year. They run one to five days and are open to all full-time personnel. If you have an idea for a course in this category, please let us know.

Formal Training. Formal training is any training provided by a DOD agency which requires a quota for attendance. Common examples are AFIT and DSMC courses. Military service schools are handled through PL/MP directly. Formal training requires a continued service commitment.

Special Civilian Education Programs. Long-Term Full-Time (LTFT) and Short-Term Full-Time (STFT) Training are administered out of our office. Both require a continuing service commitment.

--LTFT is an annual competitive program which allows an individual an opportunity to attend a college or university full-time for 12 months. LTFT is centrally-funded by PL and is open to anyone who meets the criteria. The process begins early in the calendar year with selections made in the spring. All three locations follow the same guidelines and present their recommendations to the PL Civilian Policy Board for concurrence. Final approval rests at Command-level.

--STFT is funded by the directorate and is limited to one semester. STFT can be used for any job-related education at any time during the year.

Instructional Television (ITV).

--PL has an arrangement to fund up to four courses per semester from the University of New Mexico and New Mexico State University to be telecast to our building during duty hours. (All after duty hour college courses must be handled by the Base Education and Training Center.) The only cost to the student is a one-time $ ion fee if he/she opts to take the courses for credit. Up to 12 hours can be taken and applied to a graduate degree.

--A survey is conducted before each semester to determine which of the available courses can be offered. The class must be between 15 and 26 students. Any additional requests for ITV class support must be funded either by the individual or organization and can only be provided if it doesn't conflict with the regular program and our agreements with the Base Education and Training Center.

Other College Courses. Any arrangements with universities or colleges to provide on-site courses must be handled through CCT. This does not include no-cost presentations or seminars.

IV. ACQUISITION PROFESSIONAL DEVELOPMENT PROGRAM (APDP)

The Acquisition Professional Development Program (APDP) was established to train Air Force personnel in the overall acquisition process. APDP is the Air Force's answer to the Public Law that enacted the Defense Acquisition Workforce Improvement Act (DAWIA). DAWIA, among other things, designated for all DOD components the minimum career areas of acquisition. The Air Force established APDP to closely parallel the minimum requirements outlined in DOD 5000.52M.

The career functional areas include:

--Systems Planning, Research, Development & Engineering.

--Program Management

--Communications-Computer

--Contracting, Purchasing & Industrial Management

--Test & Evaluation

--Acquisition Logistics

--Manufacturing & Production

--Business, Cost Estimating & Financial Management

--Quality Assurance

Each functional area has different requirements for certification. Because these requirements are subject to change, each individual should contact their training monitor for the most up-to-date requirements.

Engineering Support Services

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Engineering Branch, PL/SUE
(505) 846-4804; DSN 246-4804

Operations Directorate
R&D Fabrication Branch, PL/SUF
(505) 846-1437; DSN 246-1437

Edwards AFB:

Operations and Support Directorate
Research Facility Engineering Div., PL/DE
(805) 275-5782; DSN 525-5782

Operations and Support Directorate
Technical Operations Division, PL/TO
(805) 275-5511; DSN 525-5511

Hanscom AFB:

Operations and Support Directorate
Experimental & Structural Support, PL/TF
(617) 377-3791; DSN 478-3791

II. OVERVIEW

The Engineering Branch of the Research Services Division (PL/SUE) provides analytical engineering support in the fields of electrical, electronic, mechanical and structural engineering. PL/SUE also serves as the Laboratory Focal Point for the Defense Standardization Program. At Edwards AFB, the Research Facility Engineering Division (OL-AC PL/DE) serves as the laboratory focal point for Engineering Support Services.

III. ENGINEERING SECTION

This organization provides both analytical engineering studies and design support. The organization performs engineering analyses and prepares conceptual, preliminary and final designs of mechanical systems, subsystems and components in direct support of R&D projects. The personnel can assist with the application of scientific and engineering standards and principles in the transformation of research needs into a description of performance parameters and system configuration; and in the integration of related technical parameters to ensure compatibility of all physical, functional, and program interfaces. Furthermore, this organization can aid in the integration of safety, survivability and human factors into the total design effort. Maintainability, reliability, supportability and producibility considerations are addressed by the acquisition logisticians from PL/XPA.

Analyses. This Section performs developmental analyses of structures and mechanisms to ensure the safety, operability and performance of mechanical devices. Using the interface requirements and design guidance, constraints or criteria provided by the Project Manager, the personnel of this Section can develop engineering concepts to accomplish the desired result. After the conceptual design have been accepted, this section then follows the item throughout the design finalization and fabrication process, ensuring that the final item will meet the needs of the research to which it will be applied. Design or interface changes are incorporated as they occur. The primary tools utilized by this section to accomplish their task include the AutoCAD computer aided design system and the ANSYS computer aided engineering analysis system (Finite Element Analysis Program).

Defense Standardization Program. Specifications and Standards are necessary to obtain the products needed in the desired quality, within the time needed, and at the lowest possible price. Specifications support the acquisition process by clearly and accurately describing the essential technical requirements for purchased material. This Section maintains a microfilm library containing

many current and historical military specifications and standards, a variety of industry standards, over 100,000 vendor catalogs, and the Thomas Register. A CD ROM system is also available to perform rapid searches through the entire Department of Defense Index of Specifications and Standards (DoDISS) based upon subject, document number, document class, keyword or other identifying features. Limited copies of frequently used specifications and standards are immediately available. Copies of specifications and standards of moderate size may be obtained within one working day. Two or more weeks may be required to obtain copies of documents which are of considerable size. A record of all specifications and standards held by PL offices is also maintained to ensure that amendments, revisions and change notices for these documents are immediately sent to the user. The technical staff of this Section are also available for assistance in the review of new or revised technical standards, specifications or requirements.

Value Engineering Program. This Section supports the Laboratory Value Engineering Program. Although not mandatory for Basic Research and Development efforts, the Value Engineering process is a straight forward means of ensuring that the Project Manager receives the best performance for the project dollars spent. For those rare instances where the Laboratory is moving technology into Full Scale Development and/or production, it is mandatory that this program be instituted. Through the sharing of the savings produced by Value Engineering programs, contractors are encouraged to find and use cost saving techniques. Also, Value Engineering methods can be used in in-house efforts to save resources for other needs.

IV. ELECTRONIC DESIGN SECTION

This Section consists of electronic engineers, electronic technicians, and support personnel to provide Phillips Laboratory scientists, engineers, and technicians with access to a wide variety of electronic parts; with assistance in circuit design, schematic drawings and printed circuit boards; with advice and assistance in the fabrication of circuit boards and chassis assemblies, and with programming of Programmable Read Only Memory/ Erasable Programmable Read Only Memory (PROM/EPROM) and Programmable Logic Devices (PLDs).

Consolidated Electronic Project Stock (CEPS). This is a bench stock containing about 4000 types of electronic parts. Typical items include many computer, electronic and electrical devices including: integrated circuits (TTL & CMOS), math coprocessors, floppy and hard disks, 486 CPU boards, various memory (including Apple, IBM, SIMM, RAM and ROM) Expanded Memory Specification (EMS) boards, video boards, mice, diskettes, computer cables, voltage regulators, op amps, transistors, diodes, relays, switches, sockets, panel hardware, ribbon cable connectors and wire, edge connectors, solder supplies, prototype boards, modular power supplies, fuses, heat sinks, and a large assortment of capacitors, resistors, potentiometers, and connectors. The CEPS stocks items you use (or intend to use) on a regular basis. They are interested in your suggestions for new items to be included in their system. A large library of data books and cross reference material is also available in the area (including a copy machine). They have a 45 CD-ROM electronic index and manufacturer's data page reference system including 1.2 million parts and over 1,000 vendors.

Schematics and Printed Circuit Boards. PCAD software tools are used for schematic capture, circuit board layout and autorouting. Most of their Printed Circuit PC board designs start with the input of a customer's basic schematic. The derived parts list is then used to perform circuit board component placement, automated and manual trace routing, and finally back annotation to the schematic after the PC board integrated circuits are resequenced. They can also accept schematic input using ORCAD software, or ASCII data. Single, double, ground/power planed, and multi-

layer boards with soldermask and silk-screens, and flex circuits can be designed to meet your needs. Fabricated PC boards are typically delivered in three to four weeks from work request. Boards needing rework for corrections or additions can be delivered in as short as one week. They have qualified technicians who can also assemble these boards and associated chassis, if desired. They commonly produce anodized and silk-screened chassis and front panels. If you have some other requirements, contact them; their CAD system is flexible and their designers are resourceful; together you will come up with something.

Other Electronic Support. The electronic engineers can assist you in your circuit and subsystem design needs. If you have a problem with some electronic hardware or computers they can also assist in troubleshooting. Technicians can provide custom built cables to interface your hardware. They also have a handy labeling machine to provide custom labels for your project needs. They have an ultraviolet EPROM eraser and a PROM/PLD programmer available for use. (These can use either ROM or disk data.) In addition to designing the PC boards, they can concurrently coordinate the design and fabrication of your chassis hardware. They can display, modify and pen plot (or photoplot) gerber formatted data, pen plot (up to 34 x 44") Hewlett-Packard Graphics Language (HPGL) plot files, and do limited work with AutoCAD DXF files. They can also help with report documentation and they are developing the capability to perform analog and digital circuit simulation.

V. MECHANICAL DESIGN SECTION

This Section supports the project offices by finalizing the design and completing the engineering drawings for mechanical devices conceptualized by the Engineering Section, the project office or other agency and by developing design concepts for projects or devices that do not need engineering analyses. The technicians in this Section then follow the item throughout the fabrication process to ensure that it will meet the needs of the research to which it will be applied. The primary tools utilized by this section to accomplish their task include the AutoCAD or MicroCADam computer aided design system.

Engineering Drawings. Engineering drawings are meant to communicate an engineering design clearly and unambiguously to technical and management personnel. How reliably and precisely this communication is accomplished depends on how carefully the design requirements are delineated. Engineering drawings are classified as follows:

Conceptual Design Drawings used to convey an engineering concept. Unless otherwise specified, the requirements of MIL-STD-100 do not apply to these drawings.

Development Design Drawings are prepared in accordance with MIL-STD-100 unless otherwise specified in the contract, purchase order or work order.

Product Drawings are prepared in accordance with MIL-STD-100 unless otherwise specified in the contract, purchase order or work order. These drawings are of the highest requirements.

Reproduction. Paper copies can be made on a Kodak 150 at 70 copies per minute. The Kodak copier has a reduction of 64% and 77% of the original size. Five different colors of viewgraphs transparencies are available for this machine. Oversize copies, from 36" wide to a roll length may be made on a Xerox 6036. Paper copies may be made from microfilm in both positive and negative. Aperture cards of microfilm may also be printed. Plastic spiral binding with covers (in nine colors and clear) is available for professional binding of reports or presentations into booklet form (up to 340 pages). Uninterrupted classified reproduction, shredding, and binding may also be done.

Lettering The Engineering Branch's lettering system allows you to make self-adhesive, peel-off upper and lower case letters and numbers in seven different sizes from 3/8" to 4". Tapes for this system come in five weather resistant colors, and seven indoors colors and 2 fluorescent colors.

VI. FABRICATION SERVICES

Background & Resources. The R&D Fabrication Branch (SUF) was created to provide in-house research support. This has evolved to broad support for the PL scientific research community. This support includes precision machining, sheet metal fabrication, welding and heat treating, woodworking, painting and scheduling. SUF has 25 skilled technicians and a $5M equipment inventory to help you with your fabrication needs.

Services. SUF can fabricate complex precision items and projects. SUF can also help you order materials, evaluate contractor's facilities, fabrication proposals, project manhour estimates, material lists, personnel qualifications and serve on the evaluation team before contract awards.

Scheduling. Coordinate your in-house efforts requiring support by the fabrication shops through SUF. Submit work orders (PL/SUF 1194, R&D Fabrication Request) to the Scheduling Office. The Project Manager and SUF should jointly determine the funds required (such as civilian overtime or material and correct JON), examine drawings or sketches for clarity and schedule the work in the required fabrication shops on a first come-first serve basis. Priority work will be accomplished within the guidelines of PLR 80-3.

The R&D Machine Shop. At the present time there are 2 supervisors, 3 model makers and 11 machinists. This 14,550 square foot shop with a $3.6M equipment inventory is able to machine a single product on the more common machinery to large size and batches of quality parts on its modern CNC machinery and inspection equipment.

The R&D Sheet Metal Shop is capable of fabricating sheet metal components ranging from control panels and equipment chassis to large formed and assembled wave guides and heating and air conditioning duct work.

The R&D Welding Shop is able to perform all the various welding and heat treating required by the Phillips Laboratory.

The R&D Patterns and Plastics Shop is capable of manufacturing all PL requirements for wood and plastic related products ranging from precise models of PL projects to large custom cabinets.

The Paint Shop is responsible for the preparation and surface coating of all projects produced by the other fabrication branch shops.

VII. SPECIAL OL-AC GUIDANCE

The following DO policy applies to all PL OL-AC Directorates in obtaining Experimental Test System/Hardware/Facilities Acquisition Support through the Operations Directorate.

All requests for DO support in obtaining substantial or complex systems, hardware of facilities design, fabrication or construction will be submitted to the Research Facility Engineering Division (DE). Requests should contain at the minimum the following information:

JON #: _____
Program Manager: _____
Project Design Criteria: _____
Required Milestones: _____
Funding Status: _____

The Research Facility Engineering Division will provide the following services:

--Review project design criteria to determine complexity and magnitude of work and adequacy of criteria provided. Request additional criteria as required from the project manager.

--Evaluate program requirements and need dates against available options to determine the most effective method of accomplishing required work. Identify any major problems in meeting milestones to project manager.

--Review funding status to determine adequacy of available funds of funding plan. Notify project manager of any shortages or phasing problems.

--Prepare a plan with milestones and methods required to accomplish the work. Discuss with project manager for concurrence.

--Execute "the plan" by accomplishing the following work items as required:

- Program documents (332's, 813's, 1391's etc., prepared and submitted for approval).

- Design in-house (DE), Civil Engineering, contract (architect Engineers, Army Corps of Engineers, PL JPL, or TSS contract) with reviews by appropriate organizations and project manager.

- Fabrication work orders to TOF shops or contracts.

- Installation or construction work orders to TOFS shops/332 to Civil Engineering/contract (AFFTC/PK, Army Corps of Engineers, PL JPL, or OSS contracts) with appropriate monitoring and construction inspection.

- Provide walk-thru of facilities or conduct demonstration runs of systems to prove systems operation and turn over to project manager.

Upon request, DE will work with project managers in obtaining designs and construction through the TSS/OSS contracts when DE determines TSS/OSS to be the best available option to accomplish the required work. Otherwise, Project Managers, in cooperation with TOS, will work directly with TSS/OSS contractors in accomplishing the work after initial coordination with DE.

Graphics

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Graphics Section, 377 CS/SCVG-2
(505) 846-0735; DSN 246-0735

Edwards AFB:

Operations and Support Directorate
Technical Presentation Office, PL/TSPV
(805) 275-5691; DSN 525-5691

Hanscom AFB:

Operations and Support Directorate
Technical Services - Graphics , PL/TSV
(617) 377-4228; DSN 478-4228

II. DISCUSSION

Phillips Laboratory Graphics Section (377 CS/SCVG-2, Audiovisual Squadron), prepares illustrations for technical reports, handbooks, and studies, as well as viewgraphs, slides, and charts for all types of presentations. Coordinate first with SUR for any requirement relating to preparation of graphics for technical reports. The Graphics Section will help you determine the number, type, and composition of graphics products best suited for your project. They also can prepare visual aids requiring a professional illustrator. Many types of visual aids are available for briefings; viewgraphs are most commonly used; 35mm slides, and hard copy charts are also used. The Graphics Section uses a priority system for all requests.

Priority I - will be accomplished without delay (two working days) to a final product. This will preempt all lower priority work and will require written justification signed by staff or technology office chief or deputy.

Priority II - will require three to five working days and a written justification by requester.

Priority III - routine, seven to ten working days for preparation.

Large quantities or information slide requests will increase the amount of lead time required.

The Graphics Section will prepare illustrations and drawings of mechanical-electrical equipment, including internal parts assemblies. The illustrators also provide publication master of graphs, diagrams, charts, and general art work for technical reports and studies. Coordinate requests through Graphics Section and include draft material such as sketches, photographs and diagrams. Make your draft material clearly legible, typewritten if possible. PL Graphics Section specifies requirements for dimensions and kinds of draft materials.

The Project Manager will maintain the technical illustration masters produced from the draft or sketches.

--Keep technical illustration masters in original condition; never fold, cut or deface them in any manner. If you must make a change, send a marked-up copy of the original master to the Graphics Section. If you cannot get a copy of the master to mark changes, use only a non-reproducible blue lead pencil to mark on the original.

--Technical illustration repro-masters required by SUR for reports are often requested by publishers of technical journals or other technical papers. These can be produced from original masters by the following two methods:

- By using an illustration master to produce a professional media reproduction master on G110X ozalid paper. The product is a black image on white paper hard copy.

- By using an illustration master to make a reduced hard copy or vellum master

on the Kodak copying machine. The vellum master can in turn be used to make G110X hard copies on the ozalid machine.

Miscellaneous art work accomplished by the PL Graphics Section includes sketching and artistic rendering of scientific and physical phenomena, and conceptual drawings of space equipment and environment characteristics. General free-form designing and development (such as wall charts, logos, organization shields, and special displays for seminars or conferences) can also be produced. Requests for products of this type should be taken directly to PL Graphics Section.

PL/SC also has a comprehensive set of graphics utilities which are constantly being enhanced. Please see COMPUTATIONAL SERVICES for more detailed information on the SC capabilities.

III. EDWARDS AFB GRAPHICS SUPPORT

At Edwards, the Technical Presentation Office (TSPV) in Building 8353 will prepare your visual aides for all types of presentations.

Library Services

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Technical Library, PL/SUL
(505) 846-4767; DSN 246-4767

Edwards AFB:

Operations and Support Directorate
Technical Library, OL-AC PL/TSL
(805) 275-5516; DSN 525-5516

Hanscom AFB:

Operations and Support Directorate
Technical Library, OL-AA PL/TL
(617) 377-4895; DSN 478-4895

II. DISCUSSION

There are libraries at Edwards, Hanscom, and Kirtland Air Force Bases. Each Technical Library provides materials and services to support PL and other DOD personnel at each site. On site use of the books and periodicals is available to personnel legally able to get onto the base. On site use of materials is available to a variety of personnel at each site. The description of materials and services is for KAFB. Contact each library for additional specifics.

Materials

--Books. There are 26,000 books in the collection. Many are checked out on indefinite loan. Access to the collection is through the library's on-line catalog Scientific and Technical Information Library Automation System (STILAS) that can be searched from the office.

--Periodicals. The library currently subscribes to 930 periodical titles. The most recent issue of the most popular titles is kept on display shelving. Other current and older titles are arranged alphabetically by title in the stacks or in lektrievers for microfilm cartridges. Due to space constraints the library does not bind most of its periodicals.

--Technical Reports. The library has over 600,000 technical reports (majority are on microfiche). The library was founded to be the Air Force's prime collection for nuclear information. The collection is especially strong in optics, particle beams, microwaves, nuclear, and space related materials. Currently the library receives all new DTIC and NASA documents on microfiche.

--American Institute of Aeronautics and Astronautics (AIAA) Meeting papers. The library has been receiving all the meeting papers on microfiche.

Loan Services

--Most materials circulate for varying time periods.

--Office subscriptions. Mission essential journal requirements for offices must be validated by the Directorate Chief or Deputy. Requests must be submitted on PL Forms 0-3.

--Technical Reports. Most reports circulate. There is a noncirculating copy of all AFSWC, AFWL, and PL reports. Normally there is also a circulating copy. Classified and unclassified/limited material is used and lent in accordance with AFR 205-1, AFR 80-34, and AFR 83-3. The user must also have a validated subject area need-to-know for the material.

--Document delivery. The library maintains a contract with the University of New Mexico Library that includes pick up and delivery three days a week. The library fills the request from its collection or any other source for the material.

Reference and Information Services

--Reference Service. The library staff will assist the patrons in locating and acquiring information.

--Literature Searches. The Defense Federal Acquisition Regulation Supplement (DFARS) requires that all project managers request a search of all relevant databases and confirm that no existing work will satisfy their requirements. The library staff will help patrons prepare requests, and conduct interactive searches on any of 300+ data bases. The bibliographies can be supplied on disk or via electronic file transfer apart from paper printouts or bibliographies.

--Current Awareness Service. The library can build profiles to assist you in keeping abreast of new developments in your field of interest.

--Request for Proposal (RFP) Reading Files. RFP reading files may be housed in the library. They are made available to prospective contractors through your efforts, the contracting officer, and the Technical Library. Please contact the library staff for specific procedures to set up a read file. A read file is not available for prospective bidders until the library has accepted it and confirmed, in writing, that it is available. The KAFB library is not able to support read files due to a lack of space. The Library staff will work with project managers to show them how to set up a read file.

--Library Committee. The Library Committee is chaired out of the Chief Scientist's Office. There is a primary and an alternate appointed by each of the Technical Directorates. It is PL policy to encourage the opinions, reactions, and recommendations of the Laboratory scientists in a continuous improvement process for the library.

Logistics -- Supplies, Materiel & Equipment

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Logistics Branch, PL/SUM
(505) 846-0570; DSN 246-0570

Operations Directorate
Logistics Materiel Control Activity,
PL/SUMS
(505) 846-7463; DSN 246-7463

Edwards AFB:

Operations and Support Directorate
Material Branch, PL/TOM
(805) 275-5210; DSN 525-5210

Hanscom AFB:

Operations and Support Directorate
Logistics Materiel Control Activity, PL/TO
(617) 377-4868; DSN 478-4868

II. LOGISTICS MATERIEL CONTROL ACTIVITY (LMCA)

LMCA is the focal point for acquiring Phillips Laboratory supplies and equipment, except for computer-related equipment and services which go through PL/SC. The operating structures of the LMCAs may vary from base to base depending on the mission requirements or whether they are government or contractor operated. The primary objective of all LMCAs is the processing of requests for equipment, supplies, and services by the most efficient and effective means possible to meet required delivery dates. LMCA selects the best method of procurement as outlined in AFMCR 67-8. LMCA acts as the focal point between Laboratory personnel and Base Supply, Finance, and Contracting. LMCA is organized into the following units:

Customer Support Unit (CSU). This unit receives all requests for supplies and equipment, performs research and quality control, and verifies the validity of the requests. It also orders files, updates and maintains manufacturer catalogs, and forwards all researched requests to PL/SUM for funds verification and determination of procurement method. This unit also inputs all base supply requests directly to the base supply computer. Monitors and distributes supply source management products, i.e. DO4, D18, R31. Additionally, it takes appropriate action to modify or delete requests on orders based on customer requests and provides results to the customer.

Equipment Control Unit (ECU). This unit processes all requests for issues, turn-in, shipment, contract maintenance, rental contracts and interorganizational transfer of accountable equipment. ECU briefs new equipment subcustodians on their duties. This unit also annually inspects and fully inventories subcustodian accounts to insure that equipment is adequately controlled and that equipment record files are properly maintained. Additionally, this unit serves as the focal point for processing relief records for government property which is lost, damaged, or destroyed.

Materiel Handling Unit (MHU). This unit establishes, inventories and replenishes the central bench stock. MHU acts as the central receiving point for items from vendors, Base Supply and turn-ins from the Laboratory. It picks up and delivers for the Laboratory. MHU provides temporary storage on a limited basis. All hazardous material purchase requests will be handled by the LMCA, who will in turn forward the request to the Hazardous Material Cell. No other means of hazardous material purchasing is authorized. LMCA will receive all hazardous material orders and serve as the only authorized hazardous material distribution point for PL at Kirtland AFB. They will only issue hazardous materials to organizations

having a documented need and only in quantities which can be used within a reasonable prescribed time.

Procedures and Training Unit (PTU). This unit provides training to PL and contractor personnel. Soon after you arrive at the PL, contact PL/SUM and schedule yourself for the next supply training class. Procedures change often, so sit in on the class about once a year as both an update and refresher.

III. LMCA METHODS OF PROCUREMENT

When equipment is required to perform a mission, contact your equipment subcustodian who will prepare the required paperwork IAW The LMCA customer training guide.

The LMCA at Kirtland AFB is a contractor operated function; therefore once requests have been researched, LMCA forwards them to PL/SUM for funds certification and method of procurement determination. There are numerous methods of procurement depending on urgency and dollar value. The primary consideration is the required delivery date established by the customer. Following are the methods and rationale for use:

Standard Base Supply System (SBSS). This method must be used if the item is on the shelf in base supply or if base supply can meet the required delivery date. We are also restricted to a certain extent from purchasing certain depot control items.

Ordering of Hazardous Material at KAFB. All requests for hazardous material must be processed and ordered through the Base Hazardous Material Cell located in the base supply complex in building 1010 (NO EXCEPTIONS). PL customer requests for hazardous material will still be routed through the LMCA who will accomplish the necessary research and coordination and then handcarry all lab requests to the hazardous material cell. Hazardous material items are identified in the base supply system as Issue Exception Code 8 (potentially hazardous) or Code 9 (extremely hazardous). Items not already in the base supply system are categorized from a predetermined stock class listing. Each request submitted to the LMCA must be accompanied by a completed KAFB Form 392 (Chemical/Hazardous Material Authorization Request), indicating the manual or Technical Order requiring its use and a copy of the Material Safety Data Sheet (MSDS) from the manufacturer, if available. Once the KAFB Form 392 is reviewed and approved by the environmental specialist in the cell it becomes your authorization to continue ordering and using the item. PL/SE (6-2056) and PL/SUM (6-4813) are the OPRs for this subject.

Ozone Depleting Chemicals at KAFB. Due to the restrictions imposed on ordering of items containing ozone depleting chemicals, ALL requests must contain a statement from the requester, certifying whether or not the use of ozone depleting chemicals is required in the manufacturing of requested items. The ordering of items containing ozone depleting chemicals requires a waiver approved by the Assistant Secretary of the Air Force. Waivers must be obtained by the user prior to processing the request. The base environmental office 377 ABW/EM (6-0029) is the OPR on this subject.

Direct Procurement through Base Contracting. This method is used for purchasing items totaling over $2,500 which are not available in base supply or could not be procured by base supply in time to meet the required delivery date.

IMPREST Funds. This is a cash purchasing method used to procure items totaling less than $500 which are not available in base supply or could not be procured by base supply in time to meet the required delivery date. The actual purchasing is performed by an authorized acquisition specialist within PL/SUM. If the company does not provide delivery service the customer is given the cash and must go and purchase the item (this requirement applies to Kirtland AFB because our LMCA is contractor operated

and the contract does not cover off base operations). The trip is well worth the time because you are looking in most cases at a one day turn-around time, if the item is on the shelf. Out of town buys are usually shipped UPS.

IMPAC Purchases. These are government VISA credit card purchases for items totaling less than $2,500 which are not available in base supply or could not be procured by base supply in time to meet the required delivery date. If the items are on the shelf locally we can normally get them within one or two days allowing for paperwork processing. Urgent requirements can be purchased within hours. Again if the local company does not deliver the customer must pick-up the item (Kirtland AFB requirement). Out of town buys are usually shipped UPS and delivery times depend on item availability at the company. On the shelf items can be authorized overnight shipment.

Government Operated Civil Engineering Service Store (GOCESS). A reimbursable funding document has been established with Base Civil Engineering to allow laboratory personnel to shop in their GOCESS store for CE related items, which include lumber plumbing items electrical items, paint, etc. A complete listing of GOCESS items is available in the LMCA. The only requirement is that customers pick-up an identifications plate from the PL/SUM funds manager in building 1010 and present it at the store before shopping. Once shopping is completed the receipt for items purchased and the identaplate must be returned to PL/SUM. PL/SUM submits a listing of all purchases, by Job Order Number, to PL/FMBA at the end of each month for JOCAS posting and reimbursement.

IV. CONTRACTOR ACQUISITION OF GOVERNMENT SURPLUS

You may authorize contractors to screen property in the Defense Reutilization Marketing Office (DRMO) with a letter to DRMO. Your letter must contain the name of the company, contract number, name of the individual you authorize to screen property, and your signature. Provide a copy to PL/SUMS. Acquisition of excess property from any source other than the property listed in the awarded contract can mean a contract change, so it must have the PCO's (Procurement Control Officer's) approval.

When an authorized contractor locates materiel in the DRMO that can be used in performing tasks associated with the contract, the contractor lists the items to be withdrawn and obtains your approval. Send the approved list through the PCO to PL/SUMSE for approval before withdrawal. This ensures that accountable property items are picked up on GFE records, and any necessary facility approvals are obtained.

V. LEASED OR RENTAL EQUIPMENT

With short-term requirements, you should consider renting expensive equipment. The subcustodian of the requesting activity will forward requests (AF Form 601) for leasing or renting equipment (other than vehicles). The requests must justify rental or lease versus purchase, and estimate the length of rental. LMCA will determine if the requirement can be more economically met by shifting Laboratory assets, by requisition, or by local purchase. If they approve rental, LMCA will process the request. No purchase option is intended or implied unless specifically agreed to in the contract. Contact PL/SC concerning information systems.

VI. INTERDEPARTMENTAL PURCHASES

Other agencies, such as GSA, have contracts which PL/PK may write orders against. Typically you'll order equipment items such as office machines from these "GSA Supply Schedules." However, when more than one firm is listed as selling the equipment, competition may still be required; or, as is the case with typewriters, PL/PK must order the least expensive item

unless you submit special justification for a more expensive item with the Purchase Request (PR).

VII. LOGISTICS COORDINATION REQUIREMENTS (Kirtland Only)

AVS/CC - Base audiovisual manager for photo equipment.

SUF - Industrial Shop Equipment (ISE).

SUMT - Standard and special vehicles.

SC - Computer or associated ADP equipment, software, and computer services.

IM - Copying machines, electronic record and document imaging systems and mechanized filing equipment.

VIII. LOANS, DONATIONS, GRANTS, AND TRANSFERS

The following policies and procedures apply on all loans, grants, donations and transfer resources.

Loans:

-- At PL, only the Commander can agree to a loan with activities other than Air Force. The agreement goes through command channels to the level required (AFM 67-1, Vol. 1, Part 1, Chapter 10, section N). Expect 75 days lead time for processing through LMCA and command channels. DD Form 1149 establishes the audit trail.

-- The Lab Commander approves loans to other Air Force activities and LMCA sets up suspense files to recall equipment when the loan ends. AFMCR 67-8, Chapter 4, outlines procedures for these loans.

-- Intraorganizational loans (180 days or less) can be made between the lender and borrower by filling out an AF Form 1297, Temporary Issue Receipt. The lender keeps the signed AF Form 1297 in a suspense file for control, location, audit, and Inspector General Review. If the lender has a requirement within the 180 day loan period, he or she can reclaim the item and the borrower must seek a new source through the Equipment Control Unit (ECU) in LMCA.

Donations, Grants and Transfers to Educational Institutions and non-profit organizations. Local Laboratory personnel cannot donate government property. If you receive a request for donation, make no commitments. Contact PL/SUMSE for proper procedures.

Government Furnished Equipment (GFE). You and the PCO must approve requests for GFE before sending them to LMCA for transfer on DD Form 1149. If ordering, use a DD form 1348-6. When the contractor receives the GFE, you make sure that the contractor identifies the property with contractor labels or tags and that it is picked up on contractor records. When GFE becomes excess to contract requirements, it will be transferred to LMCA on a DD Form 1149. Contractors will not transfer GFE/GFM to laboratory personnel without sending DD Form 1149 through the PCO to LMCA for audit trail purposes. All GFE turned in must have condition tags. Contractors must not remove the EMAS bar or AF Form 992 code labels affixed to GFE.

IX. EQUIPMENT POOL

The PL uses the AMCS centralized equipment pool concept. If you want to borrow an item, contact the Materiel Handling Unit (MHU) in LMCA who will check all records to verify item availability. Borrowing versus purchasing will save you money.

X. BENCH STOCK

Get hardware, film, paint, batteries, wire, and frequently used miscellaneous items from the bench stock. They issue stock off the shelf as required. You must have a bench stock authorization card to draw items out of bench stock. To obtain a card, submit a letter signed by the Division Chief

to the LMCA office identifying the personnel authorized access to the PL bench stock. Be sure to include Name and Rank, Phone, JON and CCC in the letter.

XI. SHIPMENTS

Shipment of items from PL to another DOD or commercial organizations. The branch or office requiring the shipment prepares a DD Form 1149 in seven copies, showing the appropriate RON, CCC, and JON. They route the paperwork through the division funds manager to LMCA. LMCA sends the paperwork to base finance for funds committal, then turns the shipment over to base transportation for shipping.

Shipment of items from Field or Test Sites to DOD or commercial organizations requires handcarrying a DD Form 1149 to LMCA. The form should contain a valid fund citation, and describe the item to be shipped.

XII. BASE SERVICE STORE (BSS)/TOOL ISSUE CENTER (TIC)

You must be on the base supply authorization list for purchasing supplies and tools. Submit a letter signed by your division chief to the LMCA office and they will add you to the list. Be sure to include the following information in the letter:

NAME/RANK
SSAN/BADGE # (Military use SSAN; Civilians use Badge #)
OFFICE SYMBOL
PHONE #
BSS/TIC (Identify whether the individual is to have access to both or only one area.

XIII. MAINTENANCE AND SERVICE CONTRACTS

Process all requests for contract maintenance and service through LMCA to Operational Contracting (PL/PKO). Contract maintenance for computers will be processed through PL/SC.

Non-Warranty Maintenance. If the dollar value of the contract request exceeds $100,000, have the PR certified by these three offices:

-- Civilian Personnel Office for the type of workers; and

-- Manpower Office for agreement that there are not enough manpower resources to do the work in-house; and

-- Base Chief of Maintenance or PL/SUE to certify that in-house assets cannot accomplish the service. The Contract Repair Services (CRS) of PL/PKO awards the contract.

Warranty Maintenance. The subcustodian must maintain warranties on all equipment and tell CRS when an item needing repair is under warranty. When a warranted item needs repair, the subcustodian sends an unfunded AF Form 9 to CRS through LMCA. After CRS has coordinated return of the item with the contractor, they ask the user to prepare a DD Form 1149 and annotate it with warranty information and shipping instructions.

XIV. PRIORITIES AND PRECEDENCES

The Department of Defense governs the priority of resources used by the military departments through the Uniform Material Movement and Issue Priority System (UMMIPS). AFR 27-1, USAF Priority System for Resources Management governs priority assignments for Air Force resources and implements UMMIPS. UMMIPS assigns priority designators based on two factors: the Force/Activity Designator (FAD) and the Urgency of Need Designator (UND). Using precedence ratings, the US Air Force Priority System refines the FAD.

A force or activity is any unit or program that performs a mission to support national objectives. A FAD is a Roman

numeral designator (I through V) that reflects a unit's or program's basic mission essentiality to the overall DOD mission. The precedence ratings are composed of two numbers. The first number, 1 through 5, equates to the DOD FAD rating. The second number defines a relative importance within each FAD. Supply and transportation people often use FADs and precedence ratings to your requirement.

R&D programs typically carry a 2-03, 2-06, 2-09, 3-06, 4-06, or 5-06 precedence rating. Specific FADs and precedence ratings for PL projects are provided in the Program Management Directive (PMD) for each program. An alternate source is the Index of Active USAF Directed Efforts, available in PL/XPP.

In some cases, a higher than normal precedence rating may be required for a short period of time, not to exceed 1 year, to assist a program in acquiring the resources it vitally needs to complete mission or test requirements. Use of special emphasis precedence ratings must be limited to the program's critical path actions. To obtain a special emphasis precedence rating, contact PL/XPP.

XV. PL URGENCY CODES

Most issues involving urgency codes should be handled by the equipment custodian in your directorate/division. Check with them before attempting to order equipment. The following paragraphs should help you understand the process, and thus help you work with your equipment custodian.

Urgency of need designators (UNDs), identified by "A", "B", or "C", express different degrees of urgency when operational mission capability becomes jeopardized due to lack of materiel. "A" represents the greatest urgency; "B" and "C" represent descending orders of urgency.

Selecting the right UND is the job of the project manager or equipment custodian. Not every mission essential situation should be assigned UND "A". Qualification for UND "A" can only be justified when materiel shortages result in an immediate work stoppage and preclude a force/activity from performing an assigned operational mission. When the shortage results in an anticipated work stoppage within the next five days, use UND "B". Projected future requirements, routine shortages, stock replenishment, etc., should use UND "C". Choose your UND carefully so only the most serious demands receive priority processing.

Mail Services

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Mail Center, PL/IMP
(505) 846-1274; DSN 246-1274

Edwards AFB:

Operations and Support Directorate
Information Management Branch, PL/IM
(805) 275-5122; DSN 525-5122

Hanscom AFB:

Operations and Support Directorate
Information Management, PL/IM
(617) 377-3125; DSN 478-3125

II. DISCUSSION

The following paragraphs provide general information about mail addresses, return addresses, and premium mail service.

You will use the mail system for routing much of your correspondence. It is important that when sending or receiving mail you use the correct address. Outgoing official mail must meet the following specifications or it will be returned.

Mandatory name of activity
ATTN: Optional Attention Line
Optional Supplemental - Address Line
Street Address or P.O. Number - Mandatory Delivery Address
Base State Zip + 4 Code - Mandatory Last Line

For example:

All Directorates at Kirtland (except PK)
PL/__
3550 Aberdeen Ave., SE
Kirtland AFB, NM 87117-5776

PL/PK
3651 Lowry Ave, SE
Kirtland AFB NM 87117-5777

All Directorates at Hanscom
OL-AA PL/__
29 Randolph Road
Hanscom AFB MA 01731-3010

All Directorates at Edwards
OL-AC PL/__
5 Pollux Drive
Edwards AFB CA 93524-7048

Include your building and room number on the optional supplemental address line for any incoming mail expected from Federal Express or United Parcel Service since these companies deliver directly to your building.

Once you have the proper address and return address on your correspondence, send or take it to the mail room and they will process it for you. The method used to get it to its destination depends on how fast you need to get it there. If it is going to an Air Force base, you may be able to send it POUCH mail, which is the cheapest. Call your mail center to find out if POUCH service is available for your destination. If not, the next choice is to send it first class. There are several premium mail services available if you need overnight mail or second-day delivery. Please talk to your mail center people to determine the best and cheapest method for your particular needs. If you use Federal Express, you cannot send it to a post office box; you will need a street address. When sending to a military installation, include building number, room number, and telephone number in the optional supplemental address line.

If you need to send classified mail, talk to the mail center personnel and they will explain how to do it. Generally, however, confidential can be sent first class to a military address as long as it states "DO NOT FORWARD" under the return address. Secret must be sent registered. All classified must be sent United States Postal Service, **not Federal Express or UPS**.

Personnel Management

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Civilian Personnel Liaison Office, PL/CP
(505) 846-4709; DSN 246-4709

Operations Directorate
Military Personnel - Orderly Room, PL/MP
(505) 846-4796; DSN 246-4796

Edwards AFB:

Operations and Support Directorate
Manpower & Personnel Branch, PL/DPC
(805) 275-5010; DSN 525-5010

Hanscom AFB:

Operations and Support Directorate
Military Personnel - Orderly Room, PL/CCQ
(617) 377-4383; DSN 478-4383

Operations and Support Directorate
Civilian Personnel Liaison Office, PL/CP
(617) 377-2824; DSN 478-2824

II. MILITARY PERSONNEL

General Information

There are military personnel functions and squadron section commanders (CCQ) at each of the major Phillips Laboratory locations, i.e., Kirtland, Hanscom, and Edwards AFBs. The military personnel (MP)/CCQ office at Kirtland AFB is the functional advisor to the CCQ offices at Hanscom and Edwards AFB. The command authority for each location is derived from the Laboratory Commander. The military personnel function at Kirtland uses the office symbol MP. At Hanscom and Edwards this function falls under the CCQ office symbol.

The Orderly Room (CCQ) at all three locations acts as the central information and referral point for military personnel programs. It serves as the liaison between the Military Personnel Flight (MFP) and military members assigned to the laboratory. It implements the rules, regulations and policies affecting military personnel.

The military personnel function at Kirtland, serves as the liaison between the personnel functions at the Space and Missile Systems Center, AFMC and AFMPC. Personnel taskings requiring a PL Commander response are initiated at PL Kirtland (MP) and disseminated to the Hanscom and Edwards CCQ offices. Since personnel actions are covered by specific regulations, only the most widely used are discussed below.

Awards and Decorations Program. (Ref: AFR 900-48, Individual and Unit Awards and Decorations)

--This regulation explains the Air Force policy on decoration programs, types of decorations, and eligibility requirements for each type of decoration and award. Special trophies and awards may apply to both military and civilian members and are addressed in AFR 900-29, Special Trophies and Awards. This regulation includes both individual and unit awards.

--Policy: Decorations and unit awards are awarded only to recognize acts or services that are clearly and distinctly outstanding by nature and magnitude. These acts or services must place members' or units' performance significantly above and beyond that of their contemporaries and be of such importance that they cannot be appropriately recognized in any other way.

Military Performance Reports (OPR/EPR). (Ref: AFR 36-10, Officer Evaluation System and AFR 39-62, Enlisted Evaluation System).

--General Guidelines: There are two commonly used reasons when a performance report is written: change in reporting

official (CRO) and an annual report. An annual report is projected for one year from the closeout date of the last report, provided there was at least 120 days supervision within the period. This report is generated by receiving a "shell" through the personnel system, about 60 days prior to the close-out date. On the other hand, a CRO report is generated by the individual changing supervisor as a result of a PCS move, changing job, separation, or retirement. Unlike the annual report, a "shell" is not normally automatically produced if the change is generated locally. In this case, the Orderly Room must always be notified that a change in reporting official is to happen and a "shell" is needed to write the report. The Orderly Room then requests a "shell."

Weight Management Program (WMP). (Ref: AFR 35-11, The Air Force Weight Program).

This regulation states the objectives and provides the procedure for standard administration of the program within the Air Force. Weight management is an individual responsibility. Individuals who exceed the body fat standards are sent to the director of base medical services (DBMS) by the unit commander for medical evaluation. The DBMS completes a medical evaluation and diet counseling is provided. After evaluation, the individual is entered in the following phases of the Weight Management Program (WMP):

--Phase I - (Initial Entry and Body Fat Loss Period). While in Phase I, the individual is placed in a 90-day exercise program, given quarterly diet counseling, and weighed monthly. Enlisted are advised they are ineligible for reenlistment, PCS reassignment (if making unsatisfactory progress), voluntary retraining, PME attendance, and similar career actions. They may be eligible to test and be selected for promotion but will not assume higher grade until their body fat standard is met. Officers are advised they are ineligible for PCS reassignment (if making unsatisfactory progress) or to attend PME.

--Phase II - (Observation Period). Once the body fat standard is met, the individual is entered in Phase II, a 6-month observation period. Exceeding body fat standards at any time during this phase constitutes unsatisfactory progress and member is returned to Phase I of the WMP. An individual is considered officially removed from the WMP upon successful completion of Phase II.

--Phase II - (Probation Period). Upon completing the WMP, the individual is entered into the 12-month probation period. The probation period is to make sure the individual has made the necessary life-style change and to identify recidivism. An individual exceeding body fat standards at any time during the probation period constitutes unsatisfactory progress, and will be reentered into Phase I of the program.

Assignment Relocation Process. (Ref: AFR 36-20, Officer Assignments and AFR 39-11, Airman Assignments)

--PCS assignment is one of the most significant personnel actions affecting military members and their families and selection for PCS has an immediate impact on their personal affairs. The primary objective of the military assignment system is to assign military members to enhance effective and sustained mission accomplishment. While an airman does not have much control over his assignment, an officer has more say in his assignment selection with the implementation of the Voluntary Assignment System. This system was built on the premise that an officer should determine his or her assignments to the maximum extent possible. For complete information on assignment systems, contact the MFP Assignments Section at your local base.

--Placement of Incoming Officer. Officers selected for assignment under the Voluntary Assignment System are placed in the position for which they volunteered. Officers assigned to the Laboratory as unplanned gains (accessions, some AFIT students, and others who are responding to

generic advertisements that AFMPC initiates) go through an interview cycle to determine placement. Factors considered in the decision process are manning requirements, officer's qualifications/ background compared to directorate's proposed placement, and the personal desires of the officer.

III. CIVILIAN PERSONNEL

The Civilian Personnel Liaison Office at Kirtland establishes and maintains PL objectives concerning civilian personnel resource management and utilization. They provide liaison interface with servicing CCPOs at Kirtland, Edwards and Hanscom AFBs, Space and Missiles Systems Center (SMC) and Headquarters AFMC for overall civilian personnel planning.

CP publishes PL policies and procedures for civilian personnel management, civilian awards programs, recruitment, performance appraisals, and position management. They produce civilian personnel statistical reports, and other related automated reports for the Commander and higher headquarters.

The Kirtland office is supported by and coordinates regularly with the civilian liaison offices at OL-AA (PL/CP) and OL-AC (PL/DPC).

Protocol

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Protocol Office, PL/CCP
(505) 846-4965; DSN 246-4965/2557

II. DISCUSSION

This section contains information on what support the Protocol Office can provide project officers when they are hosting distinguished visitors (General Officers, SESs, STs, congressional visitors, foreign visitors, community leaders, and leaders of industry), sponsoring technical meetings, or are OPRs for special ceremonial events (promotions, retirements, dining-ins/outs, etc.) The following list of services are available through the Phillips Laboratory Protocol Office:

- Meetings/Conferences/Seminars
  - Schedule Meeting Location
  - Develop Registration Forms
  - Arrange for Escorts
  - Billeting
  - Transportation
  - Meals/Social Events
  - Place Cards
  - Welcome Letters
- General Officer/DV Visits
  - Reserve DV Suites
  - Schedule Meeting Location
  - Arrange for Transportation
  - Arrange for Escorts
  - Set up Meals/Refreshments
  - Track Arrivals/Departures
  - Assist OPR with Agenda
- Foreign Visitors/Civic Leaders
- Congressional Visitors
- Leaders of Industry
  - Schedule Meeting Location
  - Reserve DV Suites
  - Arrange for Transportation
  - Arrange for Escorts
  - Set up Meals/Refreshment
- Ceremonial Occasions
  - Schedule with Commander
  - Schedule Location
  - Prepare and Mail Invitations
  - Assist in Script Preparation
  - Prepare Program
  - Schedule Photographer
  - Arrange for Refreshment
  - Schedule Photographer
  - Assist with Setup

It is very important to Phillips Laboratory that the people who work here and the people who visit us receive the appropriate attention and recognition. If the Protocol Office can assist in this effort, please call.

Public Affairs

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Public Affairs Office, PL/PA
(505) 846-1911; DSN 246-1911/6246

Edwards AFB:

Operations and Support Directorate
Public Affairs Office, OL-AC PL/PA
(805) 275-5465; DSN 525-5465

Operations and Support Directorate
Safety Operations Office, OL-AC PL/SEO
(805) 275-5632; DSN 525-5632

Hanscom AFB:

Operations and Support Directorate
Technical Services Division, OL-AA PL/TS
(617) 377-3761; DSN 478-3761

Operations and Support Directorate
History & Public Affairs, OL-AA PL/HO
(617) 377-3643; DSN 478-3643/7111

II. OVERVIEW

The Public Affairs Office is responsible for releasing Phillips Laboratory information to the public and media. All inquiries/ requests from members of the public or media must be referred immediately to the Public Affairs Office. You should not be talking to the media on your own. All media contacts must be coordinated with Public Affairs. There are procedures set up at PL/PA (Kirtland), OL-AA, and OL-AC to handle reviewing, approving, and releasing information about the Laboratory. You should contact your servicing PA Office for information and procedures. General instructions about getting information cleared before public release are described below.

III. SECURITY AND POLICY REVIEW (CLEARANCE AUTHORITY).

Any proposed release to the public of information pertaining to Phillips Laboratory programs, activities and contracts must be forwarded to the PL Public Affairs Office in your area: Kirtland (PL/PA), Hanscom (OL-AA PL/TS/HO), Edwards (OL-AC PL/PAS) for review and clearance. The security review process ensures that information to be released is unclassified, technically accurate, clear of proprietary rights; conforms with AF and DOD policies, and is suitable for public release (reference AFR 190-1, Chap 11).

IV. WHAT REQUIRES CLEARANCE

As a general rule, information in any form that relates to plans, policies, programs or operations of the AF, DOD, or federal government must be reviewed before release.

V. LEVEL OF REVIEW AND CLEARANCE

Some PL information can be cleared at the local PA Office-level. Generally, this applies to non-policy information similar to what has been previously cleared. However, DOD and AF regulations specify that certain kinds of information must be forwarded through PA channels to the Pentagon for review and clearance. They are:

--National interest or foreign policy

-- Concerns policy

--Concerns interagency controversy

--Weapons development or improvement.

--Operations/exercises

--Command authorities

--Military applications in space

--Nuclear weapons or effects

--Chemical warfare

--Defense biological or toxin research

--High-energy lasers or particle beam technology

--Material involving critical military technology (see MCTL)

--Communications security, signals intelligence, and computer security

--Other categories as specified by the Air Force or DOD

VI. HOW TO SUBMIT MATERIAL

You should contact your local Public Affairs Office for specific guidelines and requirements. General requirements are as follows

Kirtland (PL/PA). Requests must be sent to PL/PA and accompanied by a PL/PA Form 0-1 (request copies from PL/PA). Submit form and three copies of document for local clearance requests and allow 15-workdays to clear. For material requiring higher headquarters clearance, submit form with twelve copies of document and allow 45 workdays to clear. Submit 3 copies of 1/2" video tapes with either three or twelve copies of script depending on review requirements

Hanscom (OL-AA PL/TS/HO). Requests must be sent to PL/TS/HO and accompanied by an AFMC Form 1579 (request copies from PL/TS/HO). Contact PL/TS/HO for copy requirements. Allow two weeks for local clearance and eight weeks for material requiring higher headquarters clearance. Allow six weeks for material requiring SMC clearance: Experiments to be launched on the Space Shuttle or Expendable Launch Vehicle flights sponsored by DOD; DOD space or launch systems; Space Test Program; MILSTAR and other military communications systems. If there is no PL author or co-author, PL contractors are required to submit materials for clearance directly to ESC/PAM

Edwards (OL-AC PL/PAS). Contact the Public Affairs Office for cover letter and/or form requirements. Submit two copies of material and allow 30 days for the security review process.

VII. INFORMATION NOT REQUIRING REVIEW

Closed Sessions. Sessions limited to attendees from only U.S. Government agencies and DOD contractors.

Classified Documents. Materials published in classified sources (e.g., symposia notes or classified government journals).

Limited Distribution. Published as limited distribution documents as required by program directives.

VIII. TECHNICAL PHOTOGRAPHY/ VISUAL INFORMATION (KIRTLAND ONLY)

Overview

Phillips Laboratory at Kirtland AFB has a program to effectively manage visual information needs/resources and to ensure high-quality visuals are available for higher headquarters' briefings, reports, meetings, etc. Under the program, a central, computerized-catalogued depository for visual information products was established. A Visual Information Specialist, currently assigned to the Public Affairs Office, was recruited and a PL regulation (PL Reg 190-1) was written, coordinated, and published in 1991.

Procedures

Any PL employee can request work from the base photo lab. After the photo lab completes each printing/processing assignment, the finished materials will be returned to the PL Visual Information Office (Bldg. #413, Rm. #133) before being given to the requester. Negatives, proof sheets, video and motion picture film masters will be catalogued and maintained in the central PL audiovisual depository located in PL/PAV. The customer will provide information so that the items are correctly catalogued.

Requests for purchasing audiovisual equipment will be coordinated through PL/PAV before going to LMCA. This is to ensure the equipment is not already available and that the right equipment is being requested.

Also, to ensure that we don't duplicate existing services, PL/PAV will coordinate on those portions of procurement contracts dealing with contractor-furnished photographic data items that document research, development, test, and evaluation (RDT&E) activities. The regulation referenced above provides more details on procurement contracts involving visual information materials.

Kirtland AFB

Contacts for photographic requirements at Kirtland:

Type of Work	Contact/Phone
Technical still photography	Art Goodman (6-0753)
Other still requirements	Art Goodman (6-0753) or Photo Lab (6-4878)
Videotape or motion picture	Ted Harrison (6-5556 or 6-5479)
Additional information	Juventino Garcia or Cynthia May (6-1911)

OL-AA, Hanscom AFB

Visual information procedures for ordering and receiving work are similar to Kirtland's. Requests are made directly to the PL photo lab and negatives are catalogued and retained by the lab.

OL-AC, Edwards AFB

The photo lab is a contract organization and all orders are placed through the Safety Operations Desk. Negatives are returned to the requester.

Real Property Operations and Maintenance

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Research Facility Engineering Div., PL/DE
(505) 846-1410; DSN 246-1410

Edwards AFB:

Operations and Support Directorate
Research Facility Engineering Div. , PL/DE
(805) 275-5438; DSN 525-5438

Hanscom AFB:

Operations and Support Directorate
Operations Support Section, PL/TOES
(617) 377-4868; DSN 478-4868

Operations and Support Directorate
Research Facilities & Engineering, PL/DE
(617) 377-2732; DSN 478-2732

II. DISCUSSION

The Research Facility Engineering Division (at Kirtland) is tasked with the overall responsibility for maintenance, repair, modification, and operation of PL assigned real property facilities. This responsibility is locally delegated to OL-AA (Hanscom), Operational Support Section (PL/TOES), and to OL-AC (Edwards), Research Facility Engineering Division (PL/DE)

Service calls (Emergency and Routine) for facility repairs are telephoned directly to the Base Civil Engineer (BCE). At OL-AC, AF Forms 332 are required for everything but emergency items. Emergency service calls can be telephoned in by anyone, but routine service calls are telephoned in only by your building manager. Examples of emergency service calls include, but are not limited to, the following: no heat or air conditioning, security alarm failures, power failures, or any potential danger to life or property. The BCE must respond to and secure an emergency situation within 24 hours of notification. Routine service calls include, but are not limited to the following: hole in a wall, replace a missing floor or ceiling tile, loss of utilities, broken windows, water leaks, etc. The telephone numbers for the BCE service call desk at each PL location are as follows:

LOCATION	ZONE	PHONE
Kirtland AFB	West Zone	6-5292
	East Zone	6-8222
	South Zone	6-8228
Edwards AFB		5-5302
Hanscom AFB		3-3383

Routine work requests for alteration or modification of PL facilities, installation of research equipment, and requirements for minor construction are initiated through the respective engineering support office at each location. These requests, which involve work such as relocation of walls, installation of new electrical outlets, etc., are initiated through the use of an AF Form 332 (Base Civil Engineering Work Request). The AF Form 332 should be prepared using the instructions provided in Figure 1. At Edwards, follow the OL-AC, PL/DO instructions dated 27 Sep 93 (Figure 2). The AF Form 332 is then submitted to the respective engineering support office who will forward it to the BCE. The BCE must review and approve all AF Form 332's if the work requested requires BCE support or impacts real property items or equipment. A copy of the AF Form 332 will be returned to the requester once it has been processed by the BCE.

Work Request AF Form 332 must be coordinated with ground/explosive safety, environmental management, bioenvironmental engineering and the fire department before it is submitted to the Base Civil Engineer (BCE). This coordination is required to ensure our safety during and

after the requested facility modifications occur. To expedite the process of submitting your request, you should obtain the coordination and submit it to the BCE. You can obtain the required coordination at the following locations:

Kirtland AFB:

PL RESEARCH FACILITY ENGINEERING DIV.
PL/DE; Phone: 6-1410

PL SAFETY AND ENVIRONMENTAL OFFICE
PL/SE; Phone: 6-4545

FIRE DEPARTMENT TECHNICAL SERVICES
377 SPTG/CEFT; Phone: 6-5616

ENVIRONMENTAL MANAGEMENT DIVISION
377 ABW/EMC; Phone: 6-2774.

Once you've completed the coordination steps outlined above, your request is ready to be submitted to the BCE. Your building location on base will determine where you submit your request. You submit your request at one of the following locations:

WEST ZONE	EAST & SOUTH ZONE
Building: 980	Building: 20687
(Old Fire Station)	(CES Compound)
Phone #: 6-5291	Phone #: 6-8222

III. AT EDWARDS

Follow the OL-AC PL/DO instructions dated 27 Sep 93 provided in Figure 2.

BASE CIVIL ENGINEER WORK REQUEST
(See Back of This Form Set For Instructions)

Form Approved
OMB No. 0704-0188

SECTION I - TO BE COMPLETED BY REQUESTER

1. FROM *(Organization)*	2. OFFICE SYMBOL	3. DATE OF REQUEST	4. WORK REQUEST NO. *(For BCE Use)*
PHILLIPS LABORATORY	VT	4 August 1992	
5. NAME AND PHONE NO. OF REQUESTER		**6. REQUIRED COMPLETION DATE**	**7. BUILDING, FACILITY OR STREET ADDRESS WHERE WORK IS TO BE ACCOMPLISHED**
John Doe 6-1234		15 December 1992	30117

8. DESCRIPTION OF WORK TO BE ACCOMPLISHED *(Include Sketch or Plan, when appropriate)*

Construct a wall partition in room 222. New wall requires a 32" interior door with frame. Provide electrical outlets on either side of the new wall. Separate the lighting in the original room and provide a switch that operates the lights in the new room only. New light switch to be located by new door. SEE ATTACHED DRAWING

9. BRIEF JUSTIFICATION FOR WORK TO BE ACCOMPLISHED *(Not required for maintenance and repair)*

Project security requirements outline the need for segregated office space. This office is currently occuipied by two technicians that must work independently. No other space is available.

10. DONATED RESOURCES

X	FUNDS		LABOR		MATERIAL		CONTRACT BY REQUESTER		NONE

11. NAME OF REQUESTER	12. GRADE OF REQUESTER	13. SIGNATURE OF REQUESTER *(See instructions on back)*
Jack Smith - Bldg Mgr 30117	GS-11	Jack Smith

14. COORDINATION

SECTION II - FOR BASE CIVIL ENGINEER USE

15. WORK ORDER *(Place an "X" in the appropriate box.)*

	IN-SERVICE		SELF-HELP		CONTRACT		SABER

16. DIRECT SCHEDULED WORK *(Place an "X" in the appropriate box.)*

	EMERGENCY		URGENT		ROUTINE		SELF-HELP		M/C

17. SELF-HELP *(Place an "X" in the appropriate box.)*

	BRIEFING REQUIRED		ADEQUATE COORDINATION		INSPECTION REQUIRED

SECTION III - COMPLETE ONLY IF WORK IS TO BE ACCOMPLISHED BY WORK ORDER

18. WORK CLASS	19. PRIORITY	20. ESTIMATED HOURS	21. ESTIMATED FUNDED COST	22. ESTIMATED TOTAL COST

	23. THERE IS NO NEED FOR AN ENVIRONMENTAL ASSESSMENT (AFR 19-2)		24. A WRITTEN ASSESSMENT IS BEING/HAS BEEN PROCESSED		25. APPROVED		26. DISAPPROVED

27. REMARKS

SECTION IV - APPROVING AUTHORITY

28. NAME AND GRADE *(Please Type or Print)*	29. SIGNATURE	30. DATE

AF Form 332, JAN 91 *PREVIOUS EDITION IS OBSOLETE* MASTER FILE COPY

Figure 1. Sample AF Form 332

Instructions for Preparing the Base Civil Engineering Work Request AF Form 332

BLOCK 1: "Phillips Lab"

BLOCK 2: Your Office Symbol (At Edwards AFB, insert "OL-AC PL/DE" as the office symbol)

BLOCK 3: Today's Date

BLOCK 4: Leave Blank. Base Civil Engineering will assign a work order/job order number to your request. Use that number whenever you refer to this work.

BLOCK 5: Your Name and Telephone Number.

BLOCK 6: Use a realistic date. "ASAP" is not realistic! It is important to remember that prior planning is the key to getting work accomplished when it is required.

BLOCK 7: Your Building Number.

BLOCK 8: Provide a clear, concise description of the work requested. Provide the exact location of the work requested within the building. Additional tips for completing this block include:
- Use a sketch, floor plan, photos, etc.
- Describe existing conditions
- Describe finish materials you would like used (i.e., paint, wall covering, sound soak, etc.).

BLOCK 9: Provide a Brief Justification for your new construction (Not required for maintenance or repair work). Reference applicable regulations, safety hazard reports, fire hazard reports, program requirements, etc.

BLOCK 10: Check the applicable item(s). Remember that it is much easier and quicker to get new work done to your building when you are providing the funds.

BLOCK 11: Your Building Managers Name. It is required to use your building manager here to ensure that he/she is aware of all work going on in their building.

BLOCK 12: Your Building Manager's Grade.

BLOCK 13: Your Building Manager's Signature.

BLOCK 14: PL/OL-AA and PL/OL-AC; Leave Blank.
At Kirtland AFB -- Coordination is required from several Phillips Lab and Kirtland AFB agencies before it is submitted to the Base Civil Engineer (BCE). Contact PL/DE for details.

Figure 1. AF Form 332 Instructions

DEPARTMENT OF THE AIR FORCE
OLAC, PHILLIPS LABORATORY (AFMC)
EDWARDS AIR FORCE BASE, CALIFORNIA

FROM: DO
4 Pollux Dr
Edwards AFB CA 93524-7730

27 SEP 1993

SUBJ: Work Request, AF Form 332

TO: 650 ABW/CE

1. The Phillips Laboratory (PL) will contir . ubmit all AF Form 332, Work "Requests", to your organization through a PL single poin .act. Authorized signatures and single point of contact are as follows:

SIGNATURES	SINGLE POINT OF CONTACT
RICHARD C. POCH, Colonel, USAF Director, Operations and Support Directorate	UTAH HARGIS PL/DE, Ext 5-5732
DONNIE L. LOVE, Lt Col, USAF Deputy Director, Operations and Support Directorate	SHERI NICHOLS (CSC) PL/DE, Ext 5-5438
UTAH HARGIS, P.E. Director, Research Facility Engineering Division, PL/DE	

2. All PL building managers will submit their Work Requests to Research Facility Engineering Division (DE), Bldg 8419, who will, in turn, process and submit the final requests, attend the work review boards, and follow the work through to completion.

3. Emergency repairs will continue to be called in by the assigned building manager, directly to 650 ABW/CEL at phone number 5-5302.

4. All "Work Requests" requiring PL funding through reimbursable JONs will require PL/DE authorization for funds expenditures prior to start of work.

5. This letter supersedes PL/DO letter, 18 Sep 92, same subject.

Richard C. Poch

RICHARD C. POCH, Colonel, USAF
Director,
Operations and Support Directorate

cc: PL/RK, VT, SX, XP, FM
PL/ Bldg Managers
650 ABW/CEF/CEL/CEER

Figure 2. OL-AC PL/DO Letter Dated 27 Sep 1993

Safety and Environmental Quality

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Safety & Environmental Quality Div., PL/SE
(505) 846-2056; DSN 246-2056

Edwards AFB:

Operations and Support Directorate
Safety & Health Office, OL-AC PL/SE
(805) 275-5522; DSN 525-5522

Hanscom AFB:

Operations and Support Directorate
Safety Division, OL-AA PL/SE
(617) 377-8868; DSN 478-8868

II. INTRODUCTION

The PL safety and environmental office will assist you in identifying safety and environmental requirements for your acquisitions, and recognizing hazards associated with your program, project, or facility. By applying engineering and management principles, safety and environmental protection is optimized within the constraints of operational effectiveness, time and cost throughout all phases of the program life cycle.

III. ENVIRONMENTAL OVERVIEW

The Project Manager must develop a cost effective strategy to manage both research and development as well as environmental issues to ensure compliance with all environmental regulations. The environmental arena for the project manager consists of the following components: Environmental Stewardship Compliance (Air Force and other governmental agency regulations), Economics, Public Relations, and Project Management. The primary focus of the environmental arena is environmental stewardship. Environmental Stewardship is a dedicated effort by the Project Manager to use scientific principles to ensure that Air Force civilian personnel as well as natural resources are protected from adverse effects of Air Force actions. There are more than 40 environmental statutes which affect project managers. In addition, states and local municipalities can institute regulations that affect project managers which are primarily derived from the Federal regulations. Many states have been granted the authority to implement the Federal environmental regulations with the Environmental Protection Agency (EPA) assuming only an oversight role.

IV. AIR FORCE LIABILITY

Environmental regulations are either procedural or substantive; procedural laws establish a process for compliance where penalties for noncompliance can result in program delay; and substantive laws set limits or thresholds for waste discharge where penalties for compliance include fines, prison sentences or stop work orders. EPA has found that one of the most useful tools for environmental protection is aggressive enforcement actions against violators of environmental laws. Project Managers must cooperate with regulatory authorities and implement environmental programs that are in compliance with regulations. To avoid criminal liability, Project Managers need to act in good faith, make compliance a priority and initiate internal mechanisms to recognize problems.

V. R&D ACQUISITIONS

The PL safety and environmental office must review all preliminary contractual documents, requests for proposals (RFPs), statements of work (SOWs), technical data (including facility and hardware designs) and procedures to ensure the appropriate safety and environmental staff takes part in planning conferences and reviews at all

control measures for your project. **ALL PROJECTS SHALL BE APPROVED FOR SAFETY PRIOR TO CONDUCT OF OPERATIONS.** Safety approval is in the form of a completed system safety analysis/permit, signed by the Safety Office. A safety permit can be approved for a specific experiment, test, facility, or program, and for a specific time period. The safety permit becomes invalid when the date of expiration is reached. Extensions are allowed, however, they must be assigned by the safety office.

ONCE YOUR PROJECT HAS RECEIVED SAFETY, HEALTH, AND ENVIRONMENTAL APPROVAL, DEVIATIONS MUST BE COORDINATED WITH YOUR SAFETY AND ENVIRONMENTAL STAFF. FOR INSTANCE IF YOUR PROJECT WAS APPROVED FOR INDOOR LASER/MICROWAVE FIRING AND YOU NEED TO CONDUCT OUTDOOR FIRINGS, YOU MUST COORDINATE THIS CHANGE WITH THE SAFETY AND ENVIRONMENTAL STAFF BEFORE THE CHANGE IS IMPLEMENTED.

Environmental Impact Analysis Process. The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to analyze the potential environmental impacts of proposed actions and alternatives and to use those analyses in making decisions or recommendations on whether and how to proceed with those actions. Air Force Directive 19-2, Environmental Impact Analysis (EIAP), implements the requirements NEPA. Environmental analysis and planning will begin at the earliest possible time. The initial analysis will look at the entire life cycle of the program. Environmental effects will be identified in detail adequate to be integrated with economic and technical analyses. This review determines whether a proposed action can be exempted from further review (categorical exclusion) or whether an environmental assessment (EA) or impact statement (EIS) must be prepared. The Project Manager is responsible for providing a complete description of the proposed action and alternatives (DOPAA) and for identifying key decision points and assisting in making sure that the EIAP is properly phased so that environmental documents are available to the decision maker. The Project Manager will prepare and submit an AF Form 813 to the PL environmental office (PL/SE) for review prior to processing through the base Environmental Protection Committee. The environmental staff will assist you in this effort.

THE PROJECT MANAGER CANNOT CONDUCT AN OPERATION ASSOCIATED WITH THE PROJECT UNTIL THE AF FORM 813 HAS BEEN APPROVED.

Test Safety Review Process. The test safety review process applies to all PL organizations that conduct test programs (AFMCR 127-8). If your project or program will involve a test requirement, it must have a final safety review with the intent to minimize risks to an acceptable level and then identify any residual risk. This will allow the approving authority to make an informed decision whether to approve or disapprove the test based on the amount of residual risk. The safety office is responsible for the test office review process. The process consists of these main functions: planning, review, coordination and approval, execution, safety revisions, feedback and test completion or termination. All test programs (ground, flight, space, explosives, etc.) will follow this process through the life of the program (see Figure 1). Test safety success depends on early or continuous involvement of the safety personnel. Their early involvement as an integral member in test planning may mitigate cost or schedule impacts to the test program.

When a test is ready for a safety review, the Safety Office determines the level of review based on the scope, complexity, similarity to previous tests, and anticipated risk level (low, medium, or high), conducts the review and provides a recommendation of approval or disapproval to the appropriate authority.

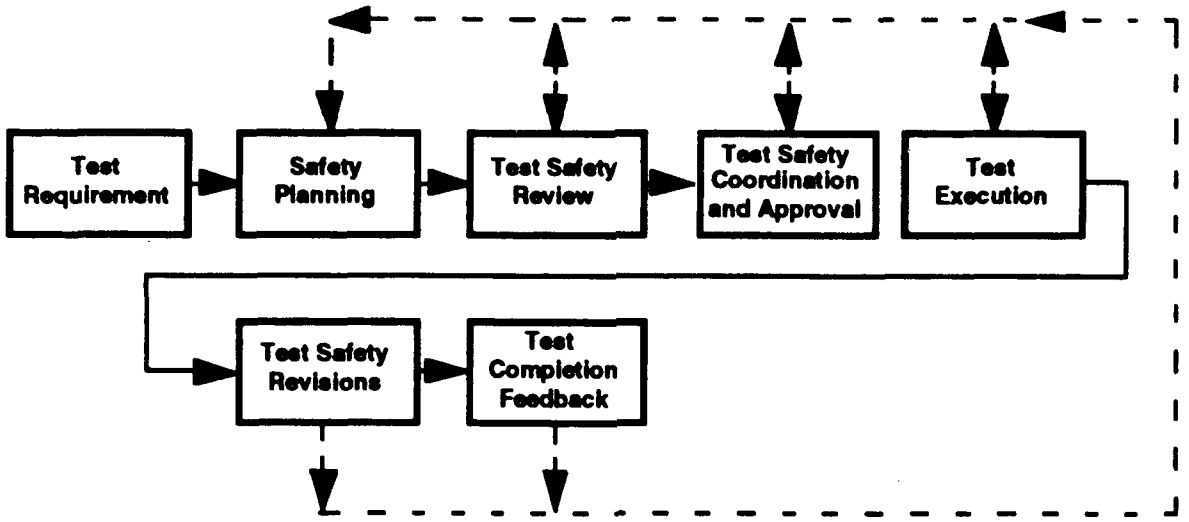

Figure 1. Test Safety Review Process

NO TEST PROGRAM WILL BE CONDUCTED WITHOUT PRIOR COORDINATION WITH THE PL SAFETY & ENVIRONMENTAL QUALITY OFFICE, AND APPROVAL BY A DESIGNATED AUTHORITY.

Operational Requirements. Depending on the project, you may be required to comply with certain operational safety, health and environmental requirements. For example, if your project involves use of hazardous materials, you will be required to establish a hazard communication program meeting the requirements of AFOSH Standard 161-21. If a hazardous waste will be generated, you will be required to establish a hazardous waste management program and/or prepare a site-specific spill plan in accordance with the host base regulations. Use of lasers will require initial eye exams, laser certifications by the Bioenvironmental Engineering Services (BES), and a standard operating procedure; use of a microwave or RF-producing device will require an FCC license, and an operating procedure; an explosive or weapon may require an interim hazard classification; or certain operations may require occupational health physicals.

Mishap Reporting and Investigation. Every effort is made to identify, minimize or eliminate hazards associated with your project. However, there are times when a hazard is overlooked, not foreseen, or controlled improperly which results in a mishap. If a mishap occurs during the conduct of your project, you are required to notify your Safety Office as soon as possible. They are required to assess reportability and investigate to determine the cause(s) of the mishap. A mishap is defined as an unplanned or unsought event, or series of events, resulting in death, injury, occupational illness, or damage to, or loss of, equipment or property. If an incident does not result in one or more of the above consequences, it is not a mishap. However, near misses should be reported to the safety staff for investigation to prevent recurrence. In addition, personnel over-exposure to laser or RF radiation must be reported immediately to the base BES and the safety office. When in doubt as to whether an incident should be reported, contact the Safety Office.

Security

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Security Office, PL/SP
(505) 846-6765; DSN 246-6765

Operations Directorate
Visitors Center, PL/SP
(505) 846-7355; DSN 246-7355

Edwards AFB:

Operations and Support Directorate
Security Office, OL-AC PL/SP
(805) 275-5389; DSN 525-5389

Hanscom AFB:

Operations and Support Directorate
Security Office, OL-AA PL/SP
(617) 377-4771; DSN 478-4771

II. OVERVIEW

Security is everyone's responsibility. Each directorate has a staff agency security manager (SASM) who assists in safeguarding classified information and giving security advice to people in their directorate. You should know the SASM for your particular division and seek their assistance in security matters. If your SASM is not available, contact your local PL Security Office. The following paragraphs will cover the various aspects of security that may directly affect you and your project.

III. CLASSIFICATION MANAGEMENT

The function of classification management involves classifying, downgrading and declassifying. Security Classification Guides (SCGs) are required before the initial funding or implementation of a project. Also, they must be reviewed, revised or reissued before initiating program management transfer plans. Original classification occurs when new information eligible for classification is developed and such information has not been previously classified. An SCG is the written record of the classification decision regarding a system, plan, program, project or operation. An SCG, once published, must be reviewed biennially for applicability and currency. PL/SP has prepared an SCG handbook designed to guide you through the stages of preparing SCGs.

IV. INDUSTRIAL SECURITY

A DD Form 254, DOD Contract Security Classification Specifications, is required when a civilian contracting source is required to either access, receive or generate classified documents or materials. The DD Form is prepared by the Project Manager, with the assistance and guidance of the security office, contracting activity (PK), and intelligence (IN). A DD Form 254 is only prepared when it is determined a prospective offeror or contractor will access classified information, receive classified documents, or receive and generate classified material. If none of these conditions exist, then there is no requirement to prepare a DD Form 254. Coordinate your DD Form 254 with the PR package and the SOW through the Security Office. When coordination with other offices is required, SP will forward the package. PL/SP has a Handbook to assist in preparation of DD Forms 254.

Visitor Group Security Agreements (VGSA). PL/SP has security oversight for PL on-base contractors. The PL Commander and the on-base contractor enter into a VGSA. The VGSA delineates the government and contractor security responsibilities, which include security education, visitor control, classification management, subcontracting, personnel and physical security, classified safeguarding, to name a few.

V. PERSONNEL SECURITY PROGRAM

Program Scope. The Personnel Security Program at Phillips Laboratory encompasses initial and periodic reinvestigations on Top Secret and Secret security clearances; monitoring position sensitivity and unit manning document; support to Special Security Office (SSO) primarily SCI billet monitoring; clearance eligibility oversight for contractor and Inter-Governmental Personnel Act (IPA) participants; support to special access programs, and clearance recertification for both DOD military and civilian personnel and other federal agencies.

Investigations for Security Clearances

--Secret: National Agency Check with Inquiries (NACI)/National Agency Check (NAC) initiated by Base Civilian Personnel before person is hired.

--Top Secret: Single Scope Background Investigation (SSBI), ten year scope. Debriefings: Occasionally done in Security Office in support of security managers when security manager is not available.

--Debriefings: Occasionally done in the Security Office in support of security managers when security manager is not available.

Periodic Reinvestigations (PRs) - Top Secret & Secret

--Secret PRs are submitted on military or civilian personnel with an investigative date of 1977 or before.

--Top Secret PRs are initiated at the four year six month point for personnel occupying a critical sensitive position. This ensures continuity of eligibility. Based on investigation, eligibility is for five years.

--PRs for personnel in Sensitive Compartmented Information (SCI) billets are also monitored by the Personnel Security Office.

Position Sensitivity Monitoring

--The Unit Manning Document (UMD) and Approved Security Clearance Access System (ASCAS) roster are the two source documents used in insuring position sensitivity is accurately reflected.

--SCI billet justifications are submitted to the SSO through the Personnel Security Office. Justifications are reviewed and coordinated on, then forwarded to SSO. The Personnel Security Office ensures a letter to reflect a change on the UMD is also submitted.

--For personnel already in an SCI billets, monitoring of periodic reinvestigation occurs.

Clearance Eligibility Oversight (IPAs/ Consultants).

These are personnel coming from a university, contractor facility or one of the Department of Energy (DOE) laboratories to do work at Phillips Laboratory usually for a time period of one-year. Many times personnel are already cleared through their respective agency and eligibility can then be certified via visit request or a memorandum. (AFR 205-32, para 3-9).

Clearance Recertification of Government Personnel.

The process of recertifying clearance eligibility for Department of Defense and other federal agency personnel is initiated by the Personnel Security Office contacting the security office, base SP personnel security office, or security manager of the losing agency. The clearance eligibility information is obtained and a memorandum for record is prepared. (AFR 205-32, para 5-20). Memo is forwarded to gaining supervisor and is kept until recertification under Phillips Laboratory occurs on ASCAS roster.

Cooperative education students, stay-in-school students, long term full-time civil service personnel (personnel that are given

time to attend school full-time), and AFOSR personnel also fall into this category.

Special Security Files. Special security files (SSFs) are initiated by the criteria given in AFR 205-32, Chapter 9.

VI. PHYSICAL SECURITY & VISITOR CONTROL

Physical security measures are designed to prevent unauthorized access to facilities, equipment, and documents to protect against espionage, sabotage and theft. Physical security places barriers in the path of potential adversaries to prevent them from attacking, delay them if they decide to attack, and deny them access to high-value targets even if they succeed in penetrating a barrier. Barriers may be either physical or perceptual. A solid building wall or a steel safe is a physical barrier. A boundary marker, lighting systems, and controlled area signs are considered perceptual barriers.

Physical security can be accomplished in a number of ways. One way is through electronic means. Electronic devices detect criminal attempts even though they won't delay or deny the attempt. These devices serve as a deterrent, in that the attacker is aware that he or she may be detected. Surveillance systems provide direct or indirect visual observation where intrusion detection devices can cover areas not covered visually.

Procedural Security. Another important part of the program is procedural security. In Phillips Lab there are no security guards to control entry or prevent theft or vandalism. We all know that any physical barrier or device can be defeated with the proper tools and given time and opportunity. That is why it is important to develop good security procedures and that everyone follows them.

Listed below are a few basic things that must be done to protect and enhance the physical security of the Laboratory.

--The badging system, which is an element of procedural security, gives us a way to tell instantly if a person is authorized to be in a secure area. This system is the only realistic way to control circulation of people within the Lab and will work only if badges are worn and if unbadged individuals are challenged. This system alone can provide one of the best and most inexpensive deterrences to unauthorized personnel. If a person knows he/she will be challenged without a badge they will be less likely to enter a facility.

--"End of day checks", if done consistently and conscientiously will ensure nothing is left insecure. A large number of thefts and security incidents can be prevented this way.

--Personnel planing office moves, renovations, or installations of new security systems, should include the security office.

--The key to good security is to be involved and get your people involved. If something seems out of the ordinary, check it out. If something is obviously wrong, report it. And if you are just not sure, ask questions.

Useful References. There are several references that you can use for physical security questions: AFR 125-37, The Installation and Resources Protection Program and AFR 88-15, Criteria and Standards for AF Construction. The one reference everyone in the Lab should become familiar with is PL Reg 125-1, Phillips Laboratory Identification Badge. This regulation will tell you everything you need to know about the badging process. It will tell how to request a badge, what to do if your badge is lost, and there are examples, in color to tell what each badge is for.

VII. VISITOR CONTROL AND BADGING (EDWARDS ONLY)

Visitor Control. OL-AC PL is located within a controlled area as outlined in accordance with AFR 125-37. Authority to grant unescorted access has been delegated

to OL-AC PL/SP. All personnel (military or contractor) visiting OL-AC PL must coordinate (preannounce) their visit with the security office at least 24 hours in advance. Visit requests (classified or unclassified) should be FAXed to ATTN: OL-AC PL/SP, Comm: (805) 275-5144 or DSN: 525-5241, Edwards AFB CA 93523. The OL-AC PL/SP will coordinate entry/ access with the Entry Control Point (ECP). Unannounced visitors arriving at OL-AC PL will require an escort.

Visitor Badging. OL-AC PL/SP is responsible for implementation of the PL Regulation 125-1, Phillips Laboratory Identification Badge. Visiting personnel (military, civilian, DOD contractor and company representative) must be sponsored by a permanently assigned OL-AC PL military or civilian personnel to be issued a no escort required picture PL Badge. The issuance of a no escort required PL Visitor's Badge depends on the individual status (U.S. citizen or Foreign National) and whether the individual was preannounced or arrived unannounced.

VIII. INFORMATION SECURITY PROGRAM

DOD 5200.1R/AFR 205-1, Information Security Program, requirements are administered and managed by PL/SP, designated Information Security Program Manager (ISPM). The program is implemented by appointed directorate level Staff Agency Security Managers (SASMs) and Office Security Managers (OSMs).

IX. COMMUNICATIONS SECURITY (COMSEC).

COMSEC involves the protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications and to ensure the authenticity of such communications. COMSEC includes crypto security, TEMPEST security, transmission security, and physical security of COMSEC material, equipment, and information.

The Air Force 56 series regulations provide policy and procedures. These policy and procedures also apply to Reserve Units and government contractors.

When requirements for COMSEC material and equipment are known, the Program Manager should immediately forecast for equipment through the PL Logistics Office. Appoint a primary COMSEC Responsible Officer (CRO) and alternates. Establish a COMSEC subaccount with the supporting base COMSEC office and submit COMSEC Crypto material requirements. Requirements for both crypto equipment and material should be established as early as possible to prevent delays. Requests should be submitted at least 90 to 120 days in advance.

Request assistance from PL Logistics Office and COMSEC Manager for contact points concerning availability of Air Force crypto equipment resources for ground, air space application. Saving money and still accomplishing the mission is the big key issue.

Secure Voice Communications

All Air Force installations offer worldwide secure communications, all classifications (narrative and data) through the Base Telecommunications Center via the AUTODIN system. Make good use of available secure communications services.

Secure Voice communications are made possible through the use of Secure Telephone Units (STUs). Anyone who has a need to discuss classified or sensitive information over the telephone must use STUs to secure their communication. STUs are not provided through the Air Force, but can be purchased from commercial vendors. All directorates within the PL were provided STUs from the initial Air Force purchase. The Crypto Keys for programming the STU must be requested through PL/SP STU Manager. The user of the STU is responsible for safeguarding the key and must be familiar with physical security safeguard requirements. The key is not transferable to other users without first

contacting the PL/SP STU Manager. The STU is the responsibility of the equipment custodian for accountability and to the user for protection from abuse, or misuse.

The STU can also be connected to a Facsimile or a PC to secure data transfers. Air Force Systems Security Instruction (AFSSI) 3007 is the operational doctrine for the Secure Telephone Unit.

General Practices

Individuals entrusted with National Security Information may be the last line of defense in protecting and safeguarding our research and technology information. The use of available security resources, sound security practices, sound judgment and common sense will help ensure our nations security.

--Follow established security procedures for generating, handling, and safekeeping of classified and sensitive information.

--Use approved methods and equipment for electronic transfer of classified and sensitive information.

--Do not use the administrative telephone for discussion of classified or sensitive information. You never know who else might be listening.

--Implement physical security procedures prior to making your secure call (STU-III)

--Discuss classified information only with those who have the proper security clearance and need-to-know.

--Make use of approved destruction facilities and equipment for proper disposal of classified and sensitive information.

The Phillips Lab COMSEC Manager (PL/SP) will provide assistance and guidance relating to COMSEC matters.

X. TEMPEST

Air Force Systems Security Instruction (AFSSI) 7000, The Air Force TEMPEST Program prescribes the requirements and procedures for the Air Force TEMPEST Program. AFR 56-1(S), Signal Security Policy (U) directs the use of this instruction. It applies to all Air Force activities (major commands (MAJCOM) and field operating agencies (FOA), including United States Air Force Reserve (USAFR) and Air National Guard (ANG) units and members, and Air Force contractors.

TEMPEST, or the control of compromising emanations (CE), is one part of the integrated Command, Control, Communications, and Computer (C4) Systems Security Program. Through the application of appropriate TEMPEST countermeasures (CM), protection is afforded to C4, and other facilities, systems, and equipment that process classified information, thus reducing the risk of compromise from CE to an acceptable and affordable level. The level of TEMPEST protection required for a facility, system, or equipment is based on the threat of exploitation and the potential damage to national security that could result through the loss of classified information through CE. The Air Force program establishes procedures and methods to achieve this goal.

TEMPEST applies when you acquire facilities, systems, or equipment to process classified information in electronic, electrical, or electromechanical form.

PL TEMPEST Manager Responsibilities

The PL TEMPEST Manager will perform the following tasks for you, when you have established a requirement for classified processing and requested assistance in accordance with Air Force System Security Instruction (AFSSI 7001)(C), The TEMPEST Countermeasure Assessment (U) and Air Force Systems Security Memorandum (AFSSM 7002)(C), Applying TEMPEST Countermeasures (U).

--TEMPEST Survey. The survey will help identify your Accessibility Space (AS), Control Access Area (CAA), Control Space (CS), and Limited Exclusion Area (LEA). It

will help you select the most suitable space for your classified system. It will also make it easier to implement the required Red/ Black Countermeasure requirements.

--Countermeasure Assessment (CMA). This assessment is performed to identify the Countermeasure Level for your facility, equipment, or system. The countermeasures level determines the necessary Red/Black countermeasures.

--Countermeasures. AFSSM 7002 prescribes the procedures and special guidance for applying appropriate countermeasures based on the Countermeasure Assessment.

--TEMPEST Profile. (Equipment Radiation TEMPEST Zone (ERTZ). The TEMPEST Manager has access to equipment radiation zones, through the use of the TEMPEST Products Data List (TPDL) (C), if the equipment to be used is known and listed. If the equipment is not specifically listed, general guidance is recommended and may be used; otherwise a TEMPEST profile may be requested through the MAJCOM TEMPEST Manager.

--Documentation. The TEMPEST Manager maintains files pertaining to the Countermeasure Assessment and the Inspection Checklist for the Countermeasure Level for all facilities, systems, and equipment that have been certified to process classified information. These two documents are essential in acquiring the accreditation and certification for equipment, facilities or systems processing classified information.

General TEMPEST Guidance.

PL organizations must not venture on their own into processing of classified information in any form without first consulting the PL TEMPEST Manager for guidance.

Do not assume that because you own a TEMPEST certified PC, Work Station, etc., or because you are working in an existing vault, RFI enclosure, or SCIF, that you automatically have permission or authority to process classified. You still need to submit your request for certification and approval by the designated approving authority (DAA).

The buying of expensive TEMPEST equipment, building expensive RFI enclosures, or taking other expensive TEMPEST Countermeasures without first consulting the TEMPEST Manager for guidance may turn out to be a very wasteful venture on your part. Spend your government money, project money, whatever, wisely and make good use of available resources. That is why, a TEMPEST survey to determine the CM level and TEMPEST requirement is necessary. The intent here is to use low cost, no cost countermeasures wherever possible and still reduce the risk of compromise through CE to an affordable level. Do not take this paragraph as the absolute rule, remember there are instances where expensive countermeasures are necessary and in some cases down directed.

When planning new construction, security should be considered in the engineering and design phase, to eliminate retrofitting.

Designated Approving Authority (DAA). The DAA is the Lab Commander, who has delegated this authority to PL/SP. The above TEMPEST processes do not in themselves give the user authority to process classified information but are essential to the request for certification. The user must request certification from the DAA by submitting a Request For Certification package to the Computer Security Manager at PL/SP.

XI. COMPUTER SECURITY (COMPUSEC)

Governing Directives. AFR 205-16, Computer Security Policy and AFMC Supplements thereto are the governing directives for Computer and Network Security in the Phillips Laboratory.

General Practices. Processing classified and sensitive unclassified information demands security measures. Computer security must integrate physical, administrative and technical measures to protect

equipment and data. Terminals, personal computers (PCs) and workstations are particularly vulnerable and should be stored in locked offices when not in use.

Passwords. Passwords restrict access to a user's specific files. The Phillips Laboratory Systems Engineering Branch (PL/SCS) issues passwords for all PL/SC mainframes, based on the request of the user and verification by a 3-letter office. A password for the contractor or other non-PL personnel should be obtained the cognizant PL Project Manager. Directorate's having mainframes other than PL/SC, should distribute and manage passwords for their users. Protect your password and do not share it. You are held responsible and accountable for all PL resources accessed under your password. Passwords should be changed semiannually, but if you think that your password has been compromised or, simply wish to change it more often as a precaution, contact PL/SCS. Take extreme care of disposing of hard copy output listings that display passwords. Treat such output as sensitive and "For Official Use Only". Never trash or recycle hardcopy output without shredding or otherwise obliterating passwords.

Reproduction of Software. U.S. Copyright law prohibits the copying of computer software without authorization from the copyright holder. Violations subject Air Force members and employees to potential civil action and criminal prosecution.

Classified Processing. All classified processing must be accomplished on equipment that has been approved by the designated approving authority (DAA) to process classified information. The office requesting the approval must institute all possible safeguards and accept any residual risk. The DAA must approve the acceptance of the risk and certify the equipment before classified processing can be accomplished. In order to receive a certification and approval, any users desiring to process classified information, must contact PL/SP for a preliminary review and instructions on how to complete the request for certification.

Contracts Requiring Classified Processing. If your contract will entail the processing of classified information, please specify in statement of work (SOW) and reference it on the DD Form 254. Coordinate with the PL/SP Computer Systems Security Manager (CSSM) and the PL/SP TEMPEST Officer.

Computer Fraud, Waste and Abuse (FW&A). Prevention of FW&A pays off more than after-the-fact detection with its subsequent loss of resources. Because of the isolation of some of the PCs and workstations, FW&A could easily go undetected....for a while. Prevention of FW&A depends upon each individual at the PL. AFR 123-2 and local policy letters define allowed and prohibited practices. Supervisors and users of government equipment should understand the work to be done by those under their supervision. Only then can supervisors recognize FW&A. Some FW&A reports can be handled informally, but a formal FW&A report involves filing FW&A forms. Remember that FW&A reports are confidential to all but the affected parties. The identity of persons submitting reports must be kept confidential. Those who have submitted reports are protected by law against any form of repercussion.

XII. SYSTEMS SECURITY ENGINEERING MANAGEMENT

Advance classification planning is an essential part of the development of any plan, operation, program, research and development project, or procurement action that involves classified information. Classification must be considered from the outset to assure adequate protection for the information and for the activity itself, and to eliminate impediments to the execution or implementation of the plan, operations order, program, project or procurement action.

Advance planning must consider system security engineering when selected systems or components are conceptualized, designed, and configured according to AFR

800-23, US Air Force Systems Security Engineering (SSE) Management. Advance planning also covers other information security requirements, security plans, operations orders that programs or projects must address, as applicable:

--Reproduction limitations;

--Dissemination instructions;

--Use of nicknames, codewords, and exercise terms;

--Special access requirements;

--Briefing and Debriefing requirements;

--Special physical security measures to include emergency protection, removal and destruction procedures;

--Public affairs issues, to include special procedures for approving public releases (reference AFR 190-1, Public Affairs Policies and Procedures);

--Special security requirements for transporting material (reference AFR 75-2, Defense Traffic Management Regulations).

The official charged with developing any plan, program or project in which classification is a factor, must ensure that classification guidance covers all information and must identify the original classification authority or the derivative classification source as a document or classification guide.

Before a classification determination is made, each item of information that may require protection shall be identified. This requires identification of that specific information which comprises the basis for a particular national advantage(s) that, if the information were compromised, would or could be damaged, minimized, or lost; thereby adversely affecting national security.

A determination to classify shall be made only by an original classification authority when the unauthorized disclosure of the information, either by itself or in the context of other information, reasonably could be expected to cause damage to the national security. The following information shall be considered for classification if it concerns:

--Military plans, weapons, or operations;

--Vulnerabilities or capabilities of systems, installations, projects, or plans relating to the national security;

--Foreign government information;

--Intelligence activities including special activities, or intelligence sources or methods;

--Foreign relations or foreign activities, or intelligence sources or methods;

--Scientific, technological, or economic matters relating to the national security;

--U.S. Government programs for safeguarding nuclear materials or facilities;

--Cryptology;

--A confidential source; or

--Other categories of information that are related.

If holders of classified information have substantial reason to believe that the information is classified improperly or unnecessarily, they shall communicate that belief to their security manager or the classifier of the information to bring about any necessary correction. Challenges to classification made under this subsection shall include sufficient description of the information being challenged to permit identification of the information and its classifier with reasonable effort. Challenges to classification shall also include the reason(s) why the challenger believes that the information is classified improperly or unnecessarily.

Challenges shall be acted upon within 30 days of receipt. The challenger shall be notified of any changes made as a result of

the challenge or the reason why no change is made. Pending genial determination of a challenge to classification, the information or document in question shall be safeguarded as required for the level of classification initially assigned.

Staff Meteorologist

I. POINTS OF CONTACT

Kirtland AFB & Hanscom AFB:

Operations Directorate
Staff Meteorology Office, PL/WE
(505) 846-4722; DSN 246-4722/23/24
FAX: (505) 846-4394; DSN 246-4394

Edwards AFB:

Operations and Support Directorate
Staff Meteorology Office, 412 OSS
(805) 277-4318; DSN 527-4318

II. OVERVIEW

The Staff Meteorology Office (WE) supports PL with Staffmets, who are active-duty weather officers with operational Air Force experience and graduate education in the physical sciences. They serve as technical consultants on atmospheric and space environmental matters affecting PL programs. PL Staffmets (Kirtland) also provide technical liaison for the Geophysics Directorate (Hanscom). A civilian member of the 412 OSS (Edwards) serves as Staff Meteorologist to OL-AC. In addition, weather officers are assigned to support key Division efforts in the Lasers & Imaging (LI) and Space Experiments (SX) directorates.

III. ORIGIN AND MISSION

The increasing sophistication and accuracy demanded in modern Air Force weapon systems have often resulted in increasing performance sensitivity to atmospheric factors. This is especially true for systems dependent on electromagnetic wave propagation. Staffmets provide "full-spectrum" atmospheric and space environmental support services tailored to PL's R&D needs.

IV. RESPONSIBILITIES

A Staffmet ensures that the environment from the earth's surface to deep space is properly considered in the design or development of weapons systems. The Staffmet must closely follow projects and programs throughout integration and testing. AFMCR 80-7 defines the environmental considerations in weapon systems development and the interaction between project officers and Staffmets. Early involvement by the Staffmet can help your program minimize adverse atmospheric effects or capitalize on natural advantages.

V. FUNCTIONS

Identify significant atmospheric and space environmental factors for future weapon systems programs.

Ensure atmospheric and space environmental effects are fully considered in programs undergoing test or demonstration.

Design and arrange weather support for R&D experiments or testing.

Fulfill project atmospheric requirements in-house to avoid costly contracts where appropriate.

Serve as an interface for atmospheric and space data resources available from other Air Force or governmental agencies.

VI. RESOURCES AVAILABLE

Geophysics Directorate (GP). GP conducts basic and exploratory work in meteorological, terrestrial and space sciences. PL Staffmets work with GP scientists to obtain their expertise on specialized atmospheric and space environmental matters.

Automatic Weather System (AWS). The OL-AC AWS system monitors surface weather conditions, particularly wind, for portions of Edwards Air Force Base (EAFB).

This is done to ensure that experiments are conducted within given meteorological criteria. The system consists of instrumented towers, located in strategic positions in sections of EAFB, measuring over 100 variables. Data are gathered by a central computer and disseminated to display locations in Safety Operations, Building 8255, and the Base Weather Station on main base. Any questions regarding system operations, should be directed to the OL-AC Staff Meteorologist.

The USAF Environmental Technical Applications Center (ETAC). This Air Weather Service unit provides technical support in meteorological techniques, climatology, and solar and space environments to all DOD agencies and their contractors. ETAC serves as the DOD repository for collecting, storing, retrieving, and processing worldwide atmospheric data.

Air Force Global Weather Central (AFGWC). The AFGWC provides real-time global meteorological support to the Air Force, Army, and other governmental agencies. AFGWC can provide specialized weather analyses and forecasts. The Air Force Space Forecast Center (AFSFC) at Falcon AFS provides all real-time space/solar environmental data.

Staff Meteorology offices at other AFMC facilities. We can fulfill environmental requirements through them for tests and experiments at AFMC test sites.

Other agencies such as the Army's Atmospheric Research Laboratory, the National Oceanic and Atmospheric Administration, the Naval Postgraduate School, and various universities are potential sources for very specialized needs not available locally or within the Air Force.

Examples of Support Provided by PL/WE.

--Obtaining world-wide cloud data for the Airborne Laser Theater Missile Defense Program (ABL-TMD).

--Employing MODTRAN and FASCODE computer model runs to determine atmospheric transmission at various wavebands and laser frequencies.

--Providing meteorological/climatological data for worldwide locations using real-time access to Air Force and Navy data bases.

--Numerical analysis and comparison of thermosonde/radiosonde derived optical parameters.

--Assessing sound propagation effects/ results for tests involving high explosives.

Technical Areas of Emphasis:

--Atmospheric Turbulent Effects on Optical Systems.

--Atmospheric Transmission of Radiation

--Meteorological Instrumentation

--Climatology

--Clouds and Cloud-Free Lines-of-Sight

--Atmospheric Aerosols

--Atmospheric Diffusion and Pollution

--Sound and Blast Propagation.

Studies and Analysis

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Studies & Analysis Division, PL/XPF
(505) 846-1865; DSN 246-1865

II. DISCUSSION

The Phillips Laboratory has an extensive capability to perform, or obtain, studies and analysis for your effort. Work at the engineering/component level all the way up to, and including, system level mission impact is available. This type of support can be used to plan, sell, and help ensure the success of your effort. A study or analysis effort may have been completed on a related subject or you may wish to request a new effort customized for your project. Either way, to have data that can back-up your effort, or tell you early the effort has certain problem areas, is always an advantage.

Most Phillips Laboratory directorates have a studies and analysis capability. Each one has its own area(s) of specialization/ expertise. Depending on the type of work and level of effort, some organizations can even fund the work for you. If you cannot find a point of contact in your directorate, you can call the Studies and Analysis Division and they will put you in contact with the right people.

Supportability and Acquisition Logistics

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Acquisition Logistics Division, PL/XPA
(505) 846-6688; DSN 246-6688

II. OVERVIEW

Supportability is the term used to define a system oriented discipline which addresses the support cost implications of research, acquisition, production, and operation of Air Force systems. Supportability or acquisition logistics, is the upfront consideration of the long term cost implications of a program, project or technology development. Many of these costs are related to the technologies used, therefore the system technologies must be examined for supportability implications.

All technologies produced by the Phillips Laboratory must be evaluated for supportability characteristics and implication. The method used is a structured systems engineering process which addresses the elements of supportability: reliability, maintainability, quality assurance, configuration control, packaging/handling/transportability, life-cycle-cost, computer resources support, manpower and personnel, and training requirements. The Acquisition Logistics Division (PL/XPA) will assist you in performing your supportability responsibilities.

The Acquisition Logistics Division will review all procurement packages for supportability content and coordinate supportability requirements with the applicable program manager. Many programs such as basic research and studies will probably not require detailed supportability requirements; however, a supportability review will ensure your program is on the right track. Remember cost, performance, schedule and Supportability must be balanced to ensure optimum success to your program. With the centralization of development and operation of weapon systems in Air Force Material Command, emphasis on supportability is increasing. Continued funding of a program which does not address supportability considerations in its system requirements is unlikely.

When the project results in equipment which will be developed, produced, operated, and supported over a useful lifetime, supportability must be explicitly addressed. When technologies are developed with potential for transition or which give indications of a significant impact on future systems, their supportability characteristics must be examined and developed along with their technical characteristics. The nature and extent of the supportability requirements will vary with the nature of the technology being developed.

If it is determined that your project will include supportability specifications, the Acquisition Logistics Division (XPA) will assign an Acquisition Logistics Specialist to assist you throughout the procurement process and, later, in monitoring the contractor's supportability performance. The acquisition logistician will prepare specific contract language, citing appropriate military specifications or standards, tailored to the scope and needs of your program. It is essential that you include the assigned acquisition logistician early in the contract cycle, since the development of supportability specifications will take time and the contract package will require the logistician's concurrence.

The supportability disciplines which will be evaluated for Laboratory projects are listed below. Depending upon the nature of your technology, program or system, your acquisition logistician may recommend that some of these disciplines not be addressed or that others be added.

III. RELIABILITY

Reliability is an engineering discipline with the objective of improving the probability of a system or component being available for use. Reliability is concerned with preventing and postponing failure. Reliability analysis examines the ways in which failures can occur and then addresses the failure mechanisms themselves or modifies other factors to reduce the probability of failure. Reliability tools vary from changing component parts to adding redundant systems, from overdesign for the expected operating environment to changing the operating environment. Contractual specifications to ensure addressing reliability could include examining and listing failure and requiring a formal corrective action system, evaluation of each component part elected for the system design, and demonstration of reliability through analysis or actual operating performance.

IV. MAINTAINABILITY

Maintainability is an engineering discipline which addresses the consequences of component or system failure. Maintainability is concerned with the preparation and actions necessary to correct a failure. Basically, maintainability strives to speed and simplify identification and repair of a failure. Maintainability engineering addresses access to areas and parts which are predicted to require maintenance and placing those components which are most likely to fail in an easily accessible location. Maintainability is a tool used for identification and scheduling of preventative maintenance procedures, identifying the equipment needed to perform maintenance procedures, identifying the equipment needed to perform maintenance tasks, and the level of skill and training required by maintenance personnel.

V. QUALITY ASSURANCE

Quality assurance (QA) is a discipline which ensures that the physical product delivered to the Air Force meets the requirements specified in the contract. The quality of a component or system usually cannot be determined merely by an inspection at the end of the project; it requires a systematic process which controls the quality of the product from technical specifications to engineering drawings, through parts and material selection, fabrication and assembly, and final testing and acceptance by the Air Force.

VI. LIFE CYCLE COST

Life Cycle Cost is a program management tool which must consider the costs required to transition and operate a technology over its useful lifetime. This cost includes the cost of development, operation, support, and disposal. For some projects, it is important to include tasks to gain insight into the life cycle cost implications of the technology being developed. Of particular interest is the potential of the new technology to reduce operations and support (O&S) costs. When a project has the potential to reduce O&S costs, these merits are strong factors in the continued support and funding of the technology. The acquisition logistician can include contract specifications to provide insight to support funding and arrange access to operations and support cost models if desired.

VII. PACKAGING, HANDLING AND TRANSPORTABILITY

The engineering design must address the need for movement of system components and address any unique requirements specifically. The hardware your project produces must be moved. The hardware may have characteristics of size; weight; center of gravity; features like toxicity or explosiveness; and sensitivity to shock, temperature, and humidity. Each of these characteristics could affect the considerations for its movement. The project manager must consider the availability of transportation systems capable of moving

hardware in a timely and affordable way. To protect and preserve hardware, special handling techniques and unique packaging methods, materials, and construction may be required before movement or storage. To achieve transportability, packaging development should be done concurrently with the hardware efforts.

VIII. HUMAN FACTORS

The technology developed by your project must be used by people. You may need to examine a human's capability to operate, maintain, and control a system based upon your technology. Considerations should include life support and equipment, operation and maintenance technicians, the availability of trained personnel, training personnel, and the adequacy of maintenance and operating instruction.

IX. SUPPORT EQUIPMENT

When a technology or system is developed, additional equipment must usually be acquired. This equipment, called support equipment, could be needed for testing, adjustment, measurement and diagnostics, removal and replacement, maintenance, or other support of the principle item of equipment. Support equipment may be readily available off-the-shelf, or may not exist and you will need to have it developed. In either case, the support equipment must be identified or developed, in the same manner as the primary equipment.

Travel Orders/TDY

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Information Management Division
Publishing Management Branch, PL/IMP
(505) 846-0117; DSN 246-0117

Operations Directorate
Orderly Room, PL/CCQ
(505) 846-4795; DSN 246-4795

Plans and Programs Directorate
Industrial and International Div., PL/XPI
(505) 846-2886; DSN 246-2886

Edwards AFB:

Operations and Support Directorate
Information Management, PL/IM
(805) 275-5122; DSN 525-5122

Operations and Support Directorate
Technical Service Division, PL/TS
(805) 275-5122; DSN 525-5122

Hanscom AFB:

Operations and Support Directorate
Information Management, PL/IM
(617) 377-2979; DSN 478-2979

II. DISCUSSION

Following is a brief discussion of TDY travel in PL CONUS and overseas and general information on TDY procedures and TDY trip reports.

While at PL, you may need to travel to attend a technical meeting, visit a contractor's plant, coordinate your activities with another Air Force or government agency, or participate in an extended field trip. Any travel must be approved by your supervisor. The division and branch secretaries and clerical personnel are well versed in the procedures for preparing TDY orders.

Travel Order Generation System (TOGS). At Kirtland AFB and Edwards AFB, most travel orders are prepared electronically using the Travel Order Generation System (TOGS). "Paper Orders" (DD Forms 1610) are rarely used. You must have authenticated temporary duty travel orders prepared as far in advance as possible before your departure. Since there are job order numbers (JON) associated with different projects, talk to your financial management people to be sure you use the correct JON in your fund cite. Questions concerning unique or special situations should be directed to the TDY orders section in PL/IM.

If you have questions on your entitlements while traveling, call your finance office travel section before incurring any expense that may not be reimbursable. Reservations on commercial air for destination in the U. S. are your responsibility and should be made through the Scheduled Airline Ticket Office (SATO). Reservations on commercial air for destinations outside the U.S. must be made through the Traffic Management Office (TMO).

At Kirtland AFB, SATO, TMO, and the TDY orders section are located in the same building.

At Edwards AFB, requests for reservations on commercial air are still the individual's responsibility; however, PL couriers will pick up tickets at SATO provided the individual has funded travel orders in IM by 1030 on the day pickup is desired. Your TMO will need a copy of your orders to issue a transportation request (TR) to have your ticket office issue your ticket.

Travel vouchers for reimbursement of per diem or travel expenses must be submitted to finance within 5 working days of travel completion.

American Express Card. If you anticipate two or more TDY trips a year, you should

apply for an American Express card through your unit orderly room (CCQ). At Edwards AFB applications for American Express charge cards and PIN numbers are processed through the Superintendent of Technical Services (PL/TS). This is especially important if you need a travel advance.

Official travel outside the contiguous United States is very closely controlled. As soon as you are aware you may have to travel outside the CONUS, contact PL/XPI to initiate the necessary paperwork required. The minimum lead-time for notification is 30-60 days depending on the country and level of approval required.

Normally, a trip report must be prepared after a TDY. Check with your orders approving official to determine if it is required and for the proper format.

Vehicles (Kirtland Only)

I. POINTS OF CONTACT

Kirtland AFB:

Operations Directorate
Logistics Branch
Transportation Section, PL/SUMT
(505) 846-4814; DSN 246-4814

II. DISCUSSION

Vehicles for In-house RDT&E Projects.

Request government-owned motor vehicles in direct support of Air Force mission under the guidelines of AFM 77-310, Vol. 1, Chap.. 4. A letter of justification for vehicles must be submitted to the PL/SUMT Vehicle Manager for recommendation to the Vehicle Authorization/Utilization Board (VAUB) for approval or disapproval. PL/SUMT will prepare AF Form 601 and order.

All vehicle requests for lease or rental to support projects will be submitted with fund cite to PL/SUMT.

Vehicle Support for Contractors.

All requests for vehicles to support contractors on RDT&E projects will be submitted to PL/SUMT.

Rental or leased vehicles will be processed the same as vehicle requirements.

Before ordering or leasing vehicles of any kind, contract PL/SUMT for sample copies of forms required, justifications, approval authority, and any other assistance required.

All requests for transportation support from the Base Transportation Division will be forwarded through PL/SUMT for coordination and action.

Intelligence Review

I. POINTS OF CONTACT

General Intelligence Information

Kirtland AFB:

Intelligence Office, PL/IN
(505) 846-5014; DSN 246-5014

Unclassified FAX: (505) 846-5851;
DSN 246-5851
Secret FAX: (505) 846-5014; DSN 246-5014*
SCI FAX: (505) 846-5017; DSN 246-5017*
(* must make voice contact first)

OPSEC

Laboratory OPSEC Manager
Intelligence Office, PL/INK
(505) 846-4710; DSN 246-4710

Foreign Disclosure

Kirtland AFB:

Foreign Disclosure Policy Officer (FDPO)
Intelligence Office, PL/IN
(505) 846-5014; DSN 246-5014

Edwards AFB:

Foreign Disclosure Coordinator
OL-AC PL/TSR
(805) 275-6190; DSN 525-6190
FAX: (805) 275-5739; DSN 525-5739

Hanscom AFB:

Foreign Disclosure Coordinator
OL-AA PL/XPG
(617) 377-3608; DSN 478-3608
FAX: (617) 377-5974; DSN 478-5974

Release of Intelligence to Contractors

Senior Intelligence Officer
Intelligence Office, PL/IN
(505) 846-5014; DSN 246-5014

Foreign Material Acquisition

Laboratory FMA Manager
Intelligence Office, PL/INA
(505) 846-5014; DSN 246-5014

II. GENERAL INFORMATION

Purpose. The purpose of the Intelligence Office review is to ensure compliance with aspects of the DD Form 254 for which the Intelligence Office is the "office of primary responsibility." Coordinating initials are required from the Senior Intelligence Officer and the Operations Security Officer.

Policy. The directives that govern this review are:

--Air Force Policy Directive 10-11, Operations Security (OPSEC) Policy Directive

--Air Force Instruction 14-303, Release of Intelligence to US Contractors

--Air Force Regulation 200-9, Foreign Disclosure of Classified and Unclassified Military Information to Foreign Governments and International Organizations (Classified Confidential)

III. OPSEC REVIEW

Purpose. The purpose of conducting operations security (OPSEC) reviews of a procurement package is to ensure OPSEC requirements are being embedded at the earliest stage of a procurement activity. Although there is flexibility built in to accomplish this, a Laboratory baseline must be adhered to. This will provide a comprehensive, consistent and cohesive approach to OPSEC.

Objectives. The objective of OPSEC is to control critical information and detectable activities from premature or inadvertent disclosure which would allow an adversary to gain an advantage or more effectively prepare for war. It is designed to protect unclassified and highly visible aspects of an operation as well as classified aspects. Classified information is protected by established security programs, however unclassified information is controlled by applying OPSEC principles and techniques.

Application of the OPSEC process promotes operational effectiveness, as well as risk management by preventing the inadvertent compromise of sensitive or classified U.S. Government activities, capabilities or intentions.

Policy. AFPD 10-11, Operations Security (OPSEC) Policy Directive, requirements are managed by PL/INK. PL/IN is the focal point for all PL related OPSEC matters. Oversight responsibility rests with each directorate, where program implementation is accomplished through a network of appointed PL OPSEC monitors and program/project managers.

As a minimum, basic OPSEC requirements shall be included in the Statement of Work to ensure the contractor complies and is working by the same set of rules, requirements, standards and policies as the U.S. Government. See OPSEC Contract Clause in PROCUREMENT PLANNING AND CONTRACT MANAGEMENT.

Each program/project is required to provide PL/INK with a listing of program/project related critical/sensitive information which requires some measure of control. These critical information lists must be provided prior to program/project implementation. PL/INK provides support to project officers in order to accomplish this aspect. This list also is provided to the contractor awarded the actual contract. The list will allow the contractor to fulfill OPSEC requirements listed in the contract.

Additionally, classified contracts are required to use DD Form 254 (See Industrial Security in the Security chapter under LABORATORY SUPPORT SERVICES). Section 11j. of the DD Form 254 asks if OPSEC requirements exist. If OPSEC requirements are listed in the statement of work, this section should be marked "YES." Section 14 on the reverse side of the DD Form 254 must state "OPSEC requirements are included in the SOW." DD254s must be coordinated through PL/INK.

IV. FOREIGN DISCLOSURE REVIEW

Purpose. One of the responsibilities of the Intelligence Office is to manage the release or non release of USAF information to foreign nationals and governments.

Policy. The Foreign Disclosure Policy Officer (FDPO) at PL/IN should be contacted immediately whenever foreign nationals may be involved with receiving USAF information or visiting the laboratory. Foreign Disclosure Coordinators are available at OL-AC at Edwards AFB, CA and OL-AA at Hanscom AFB, MA. The FDPO will assist you by providing procedures for working with foreign nationals.

In the acquisition process, the FDPO conducts a foreign disclosure review prior to the release of the synopsis in the "Commerce Business Daily". Detailed instructions are outlined in the contracts section.

Definitions

Foreign Disclosure Policy Officer (FDPO) - A government employee who has the authority to disclose or deny the release of USAF information to foreign nationals in accordance with current National Disclosure Policy. The FDPO has some local authority, but must coordinate many actions with higher headquarters.

Foreign National - Any individual who is not a citizen or a immigrant alien to the United States.

Resident Alien/Immigrant Alien - Any individual who has applied for U.S. citizenship and has an Alien Registration card (commonly known as a "green" card). Resident Aliens are NOT considered to be foreign nationals, but it is important to realize they have no security clearance.

V. RELEASE OF CLASSIFIED INTELLIGENCE TO A CONTRACTOR

Classified Intelligence. Includes classified information on foreign government military and non-military **equipment, research and development, policies, and organizations**. If there is any doubt whether the information you wish to release falls under the term "classified intelligence," the Phillips Laboratory Intelligence Office should be contacted for advice.

Purpose. The purpose of a review of the DD Form 254 by the Senior Intelligence Officer (PL Director of Intelligence) is to ensure compliance with Air Force Instruction 14-303, Release of Intelligence to US Contractors.

Policy. The release of classified intelligence to contractors by **printed, visual, or oral means** without the approval of the Senior Intelligence Officer (SIO) of this organization is a violation of Air Force Instruction 14-303. **An unauthorized release could be a security violation.**

Project officers whose contracts may require release of collateral or Sensitive Compartmented Information (SCI) intelligence information or equipment to a contractor **must** contact the intelligence office for a review of the DD Form 254 to ensure the proper information is included. There is someone in PL/IN designated to work with Project Managers on all release issues.

Special Access Requirements (SAR) Programs are not exempt; there are methods to meet the requirements of the regulation and preserve the SAR status. The Intelligence Office has a handout that explains what is required.

Requests for Proposals (RFP) are not exempt from AFI 14-303. The requirements of the Instruction will be modified to fit the RFP. Ask the Intelligence Office for assistance.

VI. FOREIGN MATERIAL ACQUISITION (FMA) REVIEW

Purpose. PL/IN has been designated by the PL Commander as the PL focal point for all FMA.

Objective. The objective of the FMA Manager is to review the request for FMA and utilize every possible resource available to acquire test assets for exploitation by the PL Technology Directorates.

Introduction to Technology Transfer

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Industrial & International Division
Office of Research and Technology Applications (ORTA), PL/XPI
(505) 846-6377; DSN 246-6377

II. OVERVIEW

Technology transfer is the process that transfers the technology developed in federal labs to the State and local governments and to the private sector to fulfill public and private needs. Congress has passed legislation since 1980 to encourage this transfer to derive maximum return on our country's technology investments and to enhance U.S. competitiveness in today's world economy. Technology transfer today is the responsibility of every federal laboratory. The Phillips Lab has incorporated this responsibility into its mission and has established an Office of Research Technology Applications (ORTA) into PL/XPI. The role of PL employees is to find opportunities, participate in, and facilitate the application of technology from the Phillips Lab to the outside public and private sector.

In 1993, Congress increased the scope of this effort with the Defense Technology Conversion, Reinvestment, and Transition Assistance program. The purpose of this program was to transition to a growing, integrated, national industrial capability which provides the most advanced, affordable, military systems, and the most competitive commercial products. The transfer of technology was now to include from the federal government to the outside public sector and from the public into the government. The intent is that all future federal development efforts will look at dual uses (Military and nonmilitary). More information on this program can be provided from a representative of the PL ORTA office in XPI.

The ORTA office has established a process for the PL to implement the Technology Transfer mission. The process is:

-- Educate laboratory personnel

-- Identify technological opportunities - people and skills, facilities, equipment, intellectual property including patents, and any other resource which may have some value or use in the public and private sector.

-- Assess market potential - Find out who outside the PL has a need or interest in our technology resource.

-- Promote the technology - Let outside customers know what technology resources the PL has and the process for accessing these resources.

-- Determine the appropriate technology transfer tool to facilitate the exchange.

-- Execute the transfer of technology.

-- Reward laboratory personnel through awards, royalty earnings, and provide public recognition for their efforts.

The technology transfer tools for facilitating the exchange include:

Cooperative Research and Development Agreements (CRDA). The authority to enter into these agreements has been delegated to the PL Commander. The CRDA is an agreement between one or more federal laboratories and/or nonfederal organizations including private companies, universities, other state and local governments, other public and nonprofit organizations etc. The CRDA allows the nonfederal organizations to contribute resources including personnel, facilities, equipment, intellectual property, and

funding, while the federal organization can contribute all of the above except funding. The CRDA is not a procurement contract. The CRDA is a very flexible tool and can be used for a variety of exchanges including leasing of PL facilities, exchanging equipment, consortium efforts, short term personnel exchanges, etc. No competition is required for CRDAs, but CBD announcements for CRDA partners is encouraged.

Patents. The PL can license PL patents to outside customers for the purpose of commercializing our technologies. Royalties earned on patent licenses will be retained by the PL. The distribution of patent royalties will be 20% (of the annual royalty income) to the inventor(s), and the balance to the PL. Payments to inventor(s) cannot exceed $100,000 per year without Presidential approval. See section below for a detailed discussion of Inventions and Patents.

Small Business Innovative Research (SBIR). The SBIR program is a national program helping small companies move advanced technology to the marketplace. The SBIR program is divided into three phases. Phase 1 is for approximately 6 months and $100,000. Phase 2 is usually 2 years for up to $750,000, and Phase 3 is funded outside of SBIR and can be privately funded, or funded through a sole source procurement. Private sector involvement is desired relative to Phase 3. See section below for an in-depth discussion of the SBIR program.

Loaned equipment. This is outside of the CRDA and can be a formal and informal use of equipment using AF Reg. 80-19. The approval process of this tool is outside of PL control. The CRDA tool can also loan equipment as part of committed resources.

Independent Research and Development (IR&D). Major source of funding for industry's basic research. IR&D money can be used for CRDAs and some other technology transfer tools. Industry determines how it wants to spend its own IR&D funds but at times will ask the PL for feedback on the work being done with their funds. The IR&D process is a very useful marketing tool for finding technology transfer partners.

In-House Laboratory Independent Research Program (ILIR). PL discretionary funds for pursuing promising, high risk, high payoff research projects. PL Commander and technology directors choose which projects to fund if the money is available. See section below for a detailed discussion of the ILIR program.

Personnel Exchanges. This program is run out of the Chief Scientist's office and is primarily a form of exchanging personnel with outside organizations, primarily universities and other governmental organizations including local state and city governments using an IPA agreement. Other programs include national research council associateship, summer faculty research program, AF lab graduate fellowship program, etc.

Intermediaries. A partnership intermediary means an agent of a State or local government, or a nonprofit entity owned in whole or part by, that assists, counsels, advises, evaluates, or otherwise cooperates with small business firms that need or can make productive use of technology-related assistance from a Federal laboratory. Partnership intermediary agreements require Secretary of the Air Force approval.

Contracts. The PL has many contracts worth millions of dollars with various contractors. The PL has recognized that future contracts will have to look at dual use issues in order to have the full support of AF leadership and Congress. Project managers should begin to look at incorporating dual use language in their Statements of Work (SOW) and in their evaluation of contractor proposals. The reality is that the federal government has to look at getting both a military and commercial benefit for the money it spends. Contractors who receive future government contracts will have to make a greater effort in ensuring dual use applications of the technologies developed under contract.

Contractor data reports should include their efforts in the commercialization of technology.

Other. In addition to contracts, the PL has been delegated authority to award instruments for assistance, i.e., grants and cooperative agreements. If the circumstances warrant, grants and cooperative agreements may be used to transfer technology. See CONTRACT MANAGEMENT section for more information about these types of instruments.

The role of PL personnel is to help identify dual use opportunities for technology transfer. The people in the technology directorates are in the best position to determine what technology assets the PL owns. Once these assets have been identified, the PL ORTA office in XPI can assist in market analysis and in determining which technology transfer tools can be used. The actual transfer of technology has to occur within the technology directorates. The ORTA office role is to assist both industry and outside customers and PL technology directorates in getting the proper tool in place and in evaluating technology assets, and the impact the transfer has internally and externally.

PL personnel need to ensure that precautions are taken in protecting intellectual property. In the past, engineers and scientists were encouraged to publish and present their technical accomplishments. This openness hurts the ability for the PL to apply for U.S. and Foreign patent protection. In the past their was little benefit to getting patents, but under the current laws inventors are allowed to receive a portion of the royalties that the PL earns. If you have promising technologies or ideas which you would like to present, please contact the PL ORTA office so that we may ensure that you have proper protection for your intellectual property.

The PL ORTA office is available to answer any questions pertaining to technology transfer, dual-use, patents, or any type of interaction with outside customers wanting to work with us in joint projects. Feel free to call the PL ORTA office at (505) 846-6377 or (505) 846-2707.

Small Business Innovation Research (SBIR)

I. POINTS OF CONTACT

Kirtland AFB:

Plans and Programs Directorate
Industrial & International Division
SMC SBIR Program Manager, PL/XPI
(505) 846-4418; DSN 246-4418

Edwards AFB:

Operations and Support Directorate
OL-AC PL/TOS
(805) 275-5617; DSN 525-5617

Hanscom AFB:

Plans and Programs Directorate
Geophysics Technology Division
OL-AA PL/XPG
(617) 377-3608; DSN 478-3608

Norton AFB:

Ballistic Missile Organization, BMO/CYRR
(909) 382-6021; DSN 876-6021

II. OVERVIEW

The Federal SBIR Program was enacted with the passage of Public Law 97-219 and continued under PL 99-443. The original objectives of this program were to: (1) Stimulate technological innovation; (2) Use small business in meeting federal research and development needs; (3) Foster and encourage participation by minority and disadvantaged persons in technological innovation; and (4) Increase private sector commercialization of innovations derived from federal research and development. In November 1992, PL 102-564 was enacted with the following purposes: (1) To expand and improve the SBIR Program; (2) To emphasize the program's goal of increasing private sector commercialization of technology developed through federal research and development; (3) Increase small business participation in federal government's dissemination of information concerning the SBIR program, particularly with regard to program participation by women-owned small business concerns and socially and economically disadvantaged small businesses. PL 102-564 also included a number of significant positive changes in the program, including increased funding, increased contract thresholds, and a much stronger data rights policy.

The Congress does not directly appropriate any funds for this program. Under the terms of PL 102-564, SBIR expenditures are mandated at a minimum of 1.5% of all research and development appropriations. That figure increases to 2.0% in FY95 and 2.5% in FY97. A somewhat clearer picture of the SBIR program's magnitude, in terms of actual dollars, was quite apparent in FY93, when based on the 1.5% withhold figure the DOD SBIR budget exceeded $340M and of that, the USAF portion was approximately $130M. The FY93 SBIR budget for SMC, primarily the Phillips Laboratory, was $34.4M. The actual budgets one may expect to see in coming years can be expected to fluctuate as Congress actually appropriates annual research and development funding. The withholding percentages required by law constitute the minimum levels of funding which may be applied to this program, as all federal agencies are encouraged to leverage or supplement this program with their own R&D project dollars. SBIR offers a golden opportunity for PL personnel to take the initiative in filling voids in many research and development technologies and your participation is encouraged. This program consists of three phases.

Phase I purpose is to determine, insofar as possible, the scientific or technical merit and feasibility of ideas or proposals submitted in response to specific topics published in the annual SBIR solicitation and will typically be accomplished under six month, firm-fixed-price (FFP) contracts. In

order to comply with DOD policy and SBIR legislation, all Phase I contracts must be obligated within six months after the solicitation closes. The legislatively imposed SBIR funded threshold for Phase I contracts is $100,000. However, HQ AFMC can and does impose more severe SBIR funding limitations or thresholds. Contact PL/XPI to obtain information regarding current HQ AFMC imposed SBIR funding limitations. These thresholds may be exceeded using non-SBIR funding, or a combination of SBIR and non-SBIR funds, after obtaining authorization from HQ AFMC.

Phase II is the principal research and development phase and hopefully may be expected to produce a well-defined, deliverable product or process. This second phase is intended to further develop proposed efforts which meet particular program needs. Awards shall be based on the scientific/technical merit and feasibility of the follow-on proposal itself, Phase I results or progress, and the proposal's commercial potential which may be evidenced by:

-- The small business concern's record of successfully commercializing SBIR or other research; or

-- The existence of second phase funding commitments from private sector or non-SBIR federal funding sources; or

-- The existence of third phase, follow-on commitments; or

-- The presence of other indicators of the commercial potential of the idea.

Phase II contracts will usually involve a 24-month technical period of performance and may be either cost-plus-fixed-fee (CPFF) which is the norm, or firm-fixed-price (FFP) when the type of effort proposed, the risk involved, and the contractor's preference warrants it. The congressionally imposed threshold for Phase II SBIR funding is $750K. However, HQ AFMC reserves the right to impose stricter SBIR funding limitations. There is no limit on the amount of non-SBIR funds which may be applied to Phase II projects, and awards may be funded with only SBIR funds, only non-SBIR funds, or a combination of SBIR and non-SBIR funds. Additional information may be obtained from PL/XPI regarding current HQ AFMC imposed SBIR funding limitations.

Under **Phase III**, non-federal or federal non-SBIR capital is expected to be used by the small business in completing its R&D and in pursuing commercial applications of that R&D; or in the case of federally funded Phase III efforts, products or processes which meet mission requirements. Federally funded Phase III funding agreements may be awarded during or after the Phase II effort. For both Phase II and III, it has been determined that the Phase I competition satisfies the requirements imposed by the Competition in Contracting Act. Services or agencies which intend to pursue research, research and development, or production development under the SBIR Program will give special acquisition preference including sole source awards to the SBIR company which developed the technology. Federally funded Phase III agreements may not use any SBIR funding.

Some other unique aspects of the SBIR Program which must be noted include:

-- Data Rights. SBIR contractors retain all rights to data generated under or resulting from an SBIR contract for a period of not less than four years.

-- Property Transfer Rights. Continued use by a small business concern participating in the third phase of the SBIR Program, as a directed bailment, of any property transferred by a federal agency to the small business in the second phase for a period of not less than two years, beginning on the initial date of the concern's participation in the program's third phase. This "right" applies to both contractor acquired property (CAP) and government furnished property (GFP) as approved under the Phase II agreement.

-- Funding Gap. Beginning with the FY 94 DOD SBIR Solicitation, potential Phase I proposers will be afforded the opportunity to request that a bridging option be included in their Phase I contract. This action has been initiated in an attempt to satisfy Congressional direction that gap-funding procedures be developed which will effectively eliminate the delay between Phase I completion and Phase II award.

The DOD has established the following evaluation criteria for all SBIR Phase I and II contract proposals.

-- The soundness and technical merit of the proposed approach and its incremental progress toward topic or sub-topic solution.

-- The potential for commercial (government or private sector) application and the benefits expected to accrue from this commercialization.

-- The adequacy of the proposed effort for the fulfillment of the requirements of the research topic.

-- The qualifications of the proposed principal/key investigators, staff and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.

Criteria weighting is left to each service or agency. In Phase II, where two proposals have been determined to be equal based on this criteria, the proposal which includes Phase II or III funding commitments will be given preference.

III. CALL FOR TOPICS

PL/XPI will issue the annual SMC SBIR "Call for Topics" in November or early December. Detailed guidance will be provided at that time. SBIR focal points assigned to OL-AA PL/XPG at Hanscom AFB, OL-AC PL/TOS at Edwards AFB and BMO/CYRR at Norton AFB may add additional details or requirements imposed by the Geophysics Directorate, the Propulsion Directorate and BMO, respectively. Personnel assigned to SMC (LAAFB) and its SPOs will be encouraged to submit topics or ideas for topics directly to appropriate PL directorates for sponsorship and eventual technical contract management. An earlier "Call for Topics" tailored to LAAFB may be issued. Project managers shall direct their topics through their appropriate directorate office and, if necessary, SBIR focal points for preliminary approval and prioritization based on directorate requirements, SBIR Program guidelines and commercial or dual-use potential. Each directorate (and BMO/CY) is encouraged to include at least one "generic" topic abstract which addresses, in general terms, that directorate's overall technology requirements or one specific technology of key interest to that directorate. The prioritized topic abstracts must be delivered to PL/XPI by mid-February (contact PL/XPI for specific date). The PL Chief Scientist (PL/CA) will select an SBIR Topic Review board made up of senior representatives from each PL directorate and BMO/CY (and/or PL/VT-B) and, individually, they will review each directorate's prioritized topics. In early March, a meeting of the review board will be convened and the final down-select process will occur leading to the approval of the coming year's topics for inclusion in the SBIR Solicitation.

SBIR topic abstracts should, among other things, include a title of 10 words or less, an objective of 20 words or less, and of course, the main body of between 300-425 words. More specific instructions regarding the topic abstract format, content, length and related documentation shall be provided to all personnel as attachments to the annual "Call for Topics." A few bits of information must be kept in mind when writing a topic. First and foremost, topics which request or even appear to request or which will lead to "studies" are disapproved. Under no circumstance shall such a topic be published or such a proposal be selected for award. Next, all topics must have clear dual-use commercialization potential and a

short statement or paragraph describing that potential must be included. Each topic must contain brief but concise statements describing Phase I and II performance and expectations. Last, but not least, all topics must address at least one DOD technology area or critical technology. Copies of the documents which list these specific technologies may be obtained from the DTIC:

ADA 253-691	DOD Technologies Plan (Jul 92)
ADA 253-692	Defense Science and Technology Strategy
ADA 260-936	The Militarily Critical Technology List (Oct 92)

Abbreviated lists of these technologies will also be provided as attachments to the annual "Call for Topics." One other item of interest when writing an SBIR topic: DOD has directed that no topic be submitted for publication which is directed toward any specific military weapons system.

IV. AFTER TOPIC APPROVAL

Once approved, the topic abstracts will be submitted to the appropriate Public Affairs office for public release authority. Simultaneously, project managers responsible for the approved topics will be directed to contact their local DTIC Field Office for assistance in completing and tailoring literature searches, which will be published along with the approved topics. It is suggested that project managers at least initiate a preliminary literature search earlier in this process. PL/XPI, with the assistance of its SBIR Focal Points at Edwards AFB, Hanscom AFB and Norton AFB, is responsible for assimilating all approved topics and associated documents, ensuring compliance with program guidelines, ensuring that formal literature searches are in approved formats, and the timely submission of those topics to higher headquarters. The Small Business Administration (SBA) will issue a pre-solicitation in mid-August. OSD/SADBU with the assistance of the Defense Technical Information Center (DTIC) will publish the final solicitation on October 1. OSD DDR&E can be expected to review all topics for program guideline compliance prior to publication. The DOD SBIR Solicitation for proposals will close on the first Friday of the first full week in January.

All SBIR Proposals (Phase I & II) must be submitted to either PL/XPI or the appropriate focal point. Within three to four workdays after the Phase I solicitation closes, all proposals along with evaluation instructions will be distributed to the assigned project managers. It is suggested, but not required, that two or more individuals conduct the technical evaluations. Technical project managers will be given at least two weeks to complete and prioritize their evaluations. The prioritized evaluations and corresponding proposals are then submitted to the appropriate directorate for further review, prioritization and eventual approval. Project managers with strong feelings about one or more proposals, multiple awards and/or the use of PL project funds should also include a brief letter or memo to that effect, addressed to the appropriate directorate. Directorates shall complete their review and final prioritization and submit their recommendations to PL/XPI within two calendar weeks. At the very least, PL/XPI will budget for at least one Phase I award for every published topic and in the case of the generic topics, a minimum of two, possibly three awards are planned. All Phase I awardees are entitled to submit Phase II follow-on proposals at any time after Phase I award, although preferably no later than 30-45 days after completion of their Phase I technical effort. These follow-on proposals must be submitted to PL/XPI or the appropriate focal point and that office will forward the proposals plus instructions to the project manager for evaluation. Directorate offices will also be notified in writing when each Phase II proposal is sent out for evaluation. Project managers must forward their evaluation plus written recommendations to the appropriate directorate within three weeks. Directorates shall complete their

review of each Phase II proposal individually and forward their recommendation to PL/XPI or appropriate focal point within 10 days. Typically enough funds are budgeted using incremental funding to allow for one Phase II award for every 4 Phase I awards from the prior year. In the interest of complying with Congressional directives to limit or eliminate the gap between Phase I completion and Phase II award, all Phase I awardees will be offered the opportunity to include a bridge option as part of their initial contract. It is the responsibility of all project managers to keep the SBIR Program Manager or appropriate focal point informed as to the status of Phase I contracts which appear to be producing significant results, making them prime candidates for such bridge funding.

V. CONTRACT PREPARATION

Contract or Purchase Request packages including the cover letter, funding document, Information for the Contracting Officer (ICO), Environmental Impact Assessment Request (AF 813), Communications/Computer Systems Requirements Documents (CSRD) if appropriate, Quantitative Evaluation, Contract Data Requirements List (CDRL), and other documents, shall be prepared by PL/XPI for all directorates not supported by SBIR focal points. Project managers whose contract or PR packages are prepared by PL/XPI may be asked for technical input regarding the preparation of these packages, in matters such as changes to proposed work plans (Phase II only), government furnished property and/or data and hardware deliverables. PL/XPI shall also be responsible for establishing the Job Order Numbers (JONs) corresponding to each of its Phase I and II contracts/purchase request packages. Copies of all such packages will be provided to the project managers for further review and input. PL/XPI will ensure that all required coordination with PL/SE, SEE, IN, etc., is accomplished on a timely basis. Those project managers assigned to the PL Propulsion and Geophysics Directorates must contact their SBIR focal points for specific instructions regarding the preparation of contract/purchase request packages and the establishment of JONs. Those project managers assigned to manage Phase I or II efforts originating with BMO or PL/VT-B will have their packages prepared by PL/XPI and contracts awarded by the PL Contracting Directorate. XPI will provide the Project Manager the official record copy of each XPI-prepared item for the Project Manager to include in the R&D Case File.

VI. CONGRESSIONAL INTEREST

Based on results of this program since 1982, the Congress has determined that:

-- The SBIR Program has been an effective catalyst for the development of technological innovations by small business;

-- SBIR Program participants have provided high quality research and development in a cost effective manner;

-- The innovative products and services developed by small business concerns participating in the SBIR Program have been important to the national defense, as well as to the missions of other participating federal agencies;

-- The SBIR Program has effectively stimulated the commercialization of technology developed through federal research and development, benefiting both the public and private sectors (i.e., Technology Transfer);

-- By encouraging the development and commercialization of technological innovations, the SBIR Program has created jobs, expanded business opportunities for small firms, stimulated the development of new products and services and improved the competitiveness of the Nation's high technology concerns.

Inventions and Patents

I. POINTS OF CONTACT

Kirtland AFB:

Contract Law and Laboratory Support Div.
377 ABW/JAN
(505) 846-1542; DSN 246-1542

II. TERMS EXPLAINED

An **invention** is any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, or any new, original and ornamental design, or any asexually distinct and new variety of plant, which is or may be patentable under the patent laws of the United States.

A **patent** is a grant issued by the United States Government giving an inventor the right to exclude all others from making, using, or selling the invention within the United States, its territories and possessions.

III. WHO AN INVENTION BELONGS TO

Determining who an invention belongs to can be a complicated legal matter. If you have questions concerning your rights to an invention, you should read AFR 110-8 Inventions, Patents, Copyrights, and Trademarks, and consult with the 377 ABW/JAN at Kirtland AFB. For your convenience, some of the provisions of AFR 110-8 are summarized here.

Since you are a government employee (military or civilian), the government may have the right to the invention and require you to assign title to it and to any patent issued on it, considering the following factors:

--You make the invention during work hours. For civilians, this means official assigned duty hours including official overtime; for military, this means time spent during hours actually performing official assigned duties.

--You make the invention using government facilities, equipment, materials, funds, information, or the time or services of other government employees on official duty; or

--The invention bears a direct relation to, or was made in consequence of your official duties. This is presumed when you are employed or assigned to:

- Invent, improve, or perfect any art, machine, manufacture, design, or composition of matter;
- Conduct or perform research and or development;
- Supervise, direct, coordinate, or review government financed or conducted research and development work; or
- Act as liaison among governmental or non-governmental agencies or individuals engaged in research and development work.

You may submit evidence showing that one or more of the above factors do not exist, or that they are not sufficient to justify requiring you to assign the invention and its patent to the government.

If the above factors do not apply to the extent that you are required to assign the invention, you may be required to grant the government a non-exclusive, irrevocable, nontransferable, royalty-free license in the invention and under any domestic or foreign patents issued on it, with power to grant sub-licenses for governmental purposes.

If you are not required to assign any rights to the government, the entire right, title, and interest in and to the invention is left to you, subject to law.

If you are required to assign domestic rights to an invention, you must also give the government an option to acquire the foreign rights.

IV. THE AIR FORCE REWARDS YOU FOR INVENTIONS

As authorized by AFPD 38-4, The Air Force Suggestion Program, the Air Force gives cash awards for your inventions. When you accept a cash award from the government, you agree to give up any claim of infringement against the government if it uses your invention (5 U.S.C. 4502 (c) and 10 U.S.C. 1124). If the invention is licensed by the government, you are entitled to receive 20% of the annual royalties, up to $100,000 per year (beyond that requires the consent of the President). The balance, up to a certain limit, goes to the Phillips Laboratory.

V. SUBMITTING INVENTIONS

You must disclose in writing all inventions you make while you are employed by the Air Force.

Unless you voluntarily agree in writing to grant the government title to the inventions, your invention disclosure should include an AF Form 1280, Invention Rights Questionnaire, for yourself and any other inventor. This form contains information to help determine your rights and those of the government in the invention. You should attach a copy of your description of the invention to the AF Form 1280, and you should indicate whether you want the Air Force to process the invention for a patent. If the Air Force determines that the government is entitled to greater rights than you said you were willing to grant, you may be required to complete an AF Form 1279, Disclosure and Record of Invention.

When you want the Air Force to process your invention for a patent, you should include an AF Form 1279, Disclosure and Record of Invention, with your disclosure. This form contains information to search and evaluate the invention, and to prepare a patent application. If the disclosure contains sketches, prints, drawings or other illustrations, reference these documents and incorporate them into a written description of the invention.

You do not need to submit an AF Form 1280 if you agree in writing (on the AF Form 1279 or otherwise) to assign the entire right, title and interest of the invention to the government.

Submit your invention disclosure to 377 ABW/JAN who will then process the disclosure for further action. 377 ABW/JAN is responsible for any subsequent action on the invention disclosure, and for arranging for its review and evaluation. You may recommend an individual or office who is competent to review and evaluate your invention.

VI. CONTRACTOR INVENTIONS

When contractors develop an invention, they are required to disclose all such inventions to the contracting officer within six months after conception or first actual reduction to practice, whichever comes first, usually on a DD Form 882, Report of Inventions and Subcontracts. Contractors may obtain title to the invention, and the government obtains a non-exclusive, nontransferable, irrevocable, paid-up license for its use throughout the world. Contractors often wait until the end of a contract to report inventions that had been conceived or reduced to practice earlier in the effort. This violates the patent clause. Prompt reporting is the guideline. Contact the contracting officer and 377 ABW/JAN if you have questions or problems concerning contractor invention and patent rights.

The disclosure must include a statement of the objects of the invention and a detailed description of its significant features, including sketches, prints, drawing or other illustrative material to the greatest extent possible. The written disclosure should reference these documents.

VII. EVALUATING INVENTION DISCLOSURES

As project manager, you must verify all contractor and subcontractor DD Forms 882 when you receive then from JAN. As the scientist or engineer most familiar with the contractor, you may be required to evaluate invention disclosures. When assigned, you must:

--Review the disclosure to assure it carries the proper security classification

--Evaluate the disclosure to assess its technical value in relation to the Air Force mission. You must evaluate it independently, without contacting the inventor or the contractor. The technical invention evaluation provides the basis for selecting which inventions are most important to the Air Force and the government, and determining priority for patent processing. This assures that the limited Air Force patent processing capabilities are used for maximum patent protection for the Air Force and the government.

--Determine whether a Department of Commerce Secrecy Order or the patent application is required.

--Record the results of the security review and invention evaluation on an AF Form 1981 and submit to JAN by the required date.

VIII. SECRECY ORDER

If publishing or disclosing an invention by granting a patent will be detrimental to national security, a Secrecy Order is applied to the application (35 U.S.C. 181).

Factors which tend to indicate a Secrecy Order on a patent application may be required are:

--It covers outstanding improvements or features in current Air Force classified material, equipment, or articles.

--It covers unimportant improvements, but discloses important features or parameters of current Air Force classified projects.

--It covers a new and feasible material or apparatus which might create a new weapon, techniques or area of activity useful in national defense.

--It covers an invention which is embodied in products, services, or knowledge to be supplied under a classified contract or subcontract between the government and a contractor.

--It covers technology which is subject to export control, regardless of whether the disclosure is related to a classified project. You must review the Military Critical Technology List, which may be cross-referenced to an Export Control Commodity Number under the Commerce Department and/or the International Traffic in Arms Regulation under the State Department. These documents are to be used as guidelines, since some of the technologies involved may be too new to appear on these lists. The focal point for Export Control issues in the Phillips Laboratory is PL/XPI.

Factors which tend to indicate a Secrecy Order on a patent application may not be required are:

--It covers improvements in technique, application, material or apparatus in open engineering or scientific literature.

--It covers bizarre, impractical or technically unsound solutions to actual or imaginary problems.

--It covers merely different arrangements of ways of doing something, where the existing general solution to the problem is well known or established.

--It covers minor details of material in classified projects, providing it does not disclose the features or parameters which cause the project to be classified.

In-House Laboratory Independent Research (ILIR)

I. POINTS OF CONTACT

Kirtland AFB:

PL Chief Scientist, PL/CA
(505) 846-0861; DSN 246-0861

II. DISCUSSION

This program was established to provide each Laboratory Commander/Director with a source of discretionary funds under PE 61101F to pursue research opportunities of high technical risk with high potential payoff to the Air Force and DOD. The program allows the Commander/Director to fund innovative, timely and promising research without requiring formal or prior approval from any command echelon. Within Phillips Laboratory, the Commander has delegated administration of the program to the Chief Scientist. The amount of dollars we receive is directly proportional to how successful our program was the previous fiscal year.

ILIR funds are intended primarily for in-house research efforts but may be used for outside contracts if of modest magnitude (usually 15% or less) and specifically justified as being in direct support of the ILIR project. Funds will not be used to make-up deficiencies in other assigned programs. ILIR funding is provided on a fiscal year basis and all funds must be obligated during the fiscal year they were allotted. Normally an ILIR work-unit will be funded for no more than two years. If a work-unit is selected for continued effort, the work-unit should be transferred to the regular R&D sponsored program and supported through the normal budget cycle.

The normal yearly cycle for the ILIR Program is concentrated during the July-September time frame and consists of the overlapping functions of reporting on the programs for the current fiscal year and planning the program for the next fiscal year.

July

The primary investigator of each active ILIR work-unit is required to submit an annual progress report. Format for the annual report is shown in Figure 1. Approximately twelve work-units are selected based on the progress reports received for possible inclusion in the annual ILIR briefing.

Call letters for new ILIR work-unit proposals are forwarded to the Directorate Chief Scientists. The format for submitting an ILIR work-unit proposal is shown in Figure 2. A new proposal is also required for ILIR work-units that had been previously funded for one year and are now requesting second year funding.

Normally, 30 days is allowed for the preparation of a work-unit proposal. Each proposal must be approved by the applicable Director before forwarding to the Chief Scientist. Approval by the Director certifies the availability of the necessary professional staff, equipment and facilities throughout the life of the work-unit.

August

The individual work-unit progress reports are reviewed, edited as necessary, and consolidated into the Annual ILIR Report which is submitted to AFMC/ST. A panel consisting of the Chief Scientist and the Directorate Chief Scientist of each participating Directorate is convened to review all new ILIR work-unit proposals and those on-going work-units requesting second year funding. As the amount of ILIR dollars the Laboratory will receive is not known at this time, the panel prioritizes the proposals in a 1-n listing.

September

The annual ILIR briefing, highlighting our major accomplishments, is presented in Washington, DC. The presentation is made

by the Laboratory Chief Scientist to a review committee consisting of the AF Chief Scientist, the Deputy for Technology to the Assistant Secretary of the Air Force (Acquisition), the AFMC Principal Assistant to the DCS for Science and Technology and the Director of AFOSR. The results of this briefing determine the level of ILIR funding for the Laboratory.

The Laboratory is notified of the level of funding it will receive for the coming fiscal year. The prioritized listing of work-unit proposals is used to determine those work-units that will be funded. Turn-on letters are forwarded to the appropriate primary investigators, JONs are established, R&D Case Files are organized, and work begins.

III. DEFINITIONS

The following definitions will be used when completing the Annual Progress Report and the ILIR Work-unit Proposals.

Time

-- Man-years (MY): Direct labor years to the nearest tenth based on 1728 direct labor hours available per person per year.

Funding

--In-House: Costs associated with In-House research include supplies, materials, equipment, and services including those purchased by contract and contracts for minor construction/altering of in-house facilities.

--Extramural:

On-base Contracts - the cost of contracts for an on-base, captive or resident contractor to conduct research and/or operate an on-base research facility.

R&D Contracts - the cost of research accomplished at an off-base contractor or university facility by a non-resident/non-captive contractor.

Government Labs - the cost of research accomplished by another DOD Laboratory/agency or other Federal agency such as DOE, Army, Navy, etc.

ILIR

Close Out Report ____

Title:

Telephone Nr _____

Primary
Investigator: _____ PL/_____

Approved Program: FY ___ $ _____
FY ___ $ _____

1. Technical Goals:

2. Task Summary:

3. Funding Summary:

FY _____		FY _____	
In-House	$ _____	In-House	$ _____
Extramural	$ _____	Extramural	$ _____
On-Base Contracts	_____	On-Base Contracts	_____
R&D Contracts	_____	R&D Contracts	_____
Government Labs	_____	Government Labs	_____

4. In-House Man-Year Summary:

FY ____ FY ____ FY ____

TOTAL _____

5. Estimated Completion Date: _____

Figure 1. Annual ILIR Progress Report Format

ILIR TASK PROPOSAL

Date:_____

Dir Approval _____
Dir Priority ____ of ____

TASK TITLE:

PRIMARY INVESTIGATOR: _____ **PL/____ TEL:** _____

1. OBJECTIVE:

2. TECHNICAL DESCRIPTION AND APPROACH (Use separate sheet if necessary):

3. SPECIFIC QUESTIONS:

   A. What is the state-of-the-art in this area?

   B. What is new about this effort?

   C. What is the payoff?

Figure 2. Format for Submitting New ILIR Proposals (Page 1 of 3)

4. SIGNIFICANT MILESTONES: (Nr of months, AD = Approval Date)

Funds Initiated	- AD +_____	_____	AD + _____
Funds Obligated	- AD +_____	_____	AD + _____
_____	- AD +_____	Final Results	AD + _____
_____	- AD +_____	Final Report	AD + _____

5. FUNDING REQUIREMENTS:

FY9x $ _____ FY9x+1 $ _____

Funding Breakout: Breakout funding by FY into the two general categories of In-House and Extramural (see 1/ and 2/ next page). Extramural must be further broken out into the categories of On-Base Contract, R&D Contract, and Government Lab - state the name of the contractor/university/laboratory and the associated funding level.

FY9 x	FY9 x+1
In-House $ _____	In-House $ _____
Extramural $ _____	Extramural $ _____
* On-Base Contract (name/$)	* On-Base Contract (name/$)
_____/$ _____	_____/$ _____
_____/$ _____	_____/$ _____
* R&D Contract (name/$)	* R&D Contract (name/$)
_____/$ _____	_____/$ _____
_____/$ _____	_____/$ _____
* Laboratory (name/$)	* Laboratory (name/$)
_____/$ _____	_____/$ _____
_____/$ _____	_____/$ _____

Figure 2. Format for Submitting New ILIR Proposals (Page 2 of 3)

6. In-House Man-Year Labor Summary: (See 3/ next page.)

	FY9 x				FY9 x+1		
	Military	Civilian	Total		Military	Civilian	Total
S&E*	____	____	____	S&E*	____	____	____
Tech	____	____	____	Tech	____	____	____
Other	____	____	____	Other	____	____	____
Total	____	____	____	Total	____	____	____

*S&E In-House Labor Breakout: List the rank/grade and names of all S&E personnel and % of time by FY.

FY9x	FY9 x+1
_____ (%)	_____ (%)
_____ (%)	_____ (. %)
_____ (%)	_____ (%)

7. PL Facilities Available: (Where work will be accomplished)

( ) Yes - (State Bldg. Nr./Room Nr.) _____ / _____

( ) No - (State rqmts. and suggested location.)

Figure 2. Format for Submitting New ILIR Proposals (Page 3 of 3)

Acronyms

A

ABW	Air Base Wing
ACO	Administrative Contracting Officer
ADP	Automatic Data Processing
ADPE	Automatic Data Processing Equipment
AEP	Accrued Expenditures Paid
AEU	Accrued Expenditures Unpaid
AFB	Air Force Base
AFGWC	Air Force Global Weather Central
AFMC	Air Force Materiel Command
AFMCR	Air Force Materiel Command Regulation
AFOSI	Air Force Office of Special Investigations
AFOSR	Air Force Office of Scientific Research
AFR	Air Force Regulation
AIAA	American Institute for Aeronautics and Astronautics
AP	Acquisition Plan
ARPA	Advanced Research Projects Agency
ASC	Aeronautical Systems Center
ASN	Allotment Serial Number
ASP	Acquisition Strategy Panel
ATP	Authority to Proceed
ATTD	Advanced Technology Transition Demonstration

B

B&P	Bid and Proposal
BA	Budget Authorization
BAA	Broad Agency Announcement
BEA	Budget Estimate Agreement
BMD	Ballistic Missile Defense
BMDO	Ballistic Missile Defense Org.
BPAC	Budget Program/Activity Code
BY	Budget Year

C

C/SCSC	Cost/Schedule Control Systems Criteria
C/SSR	Cost/Schedule Status Report
CAD/CAM	Comprehensive Computer Aided Design/Computer Aided Manufacturing
CAO	Contract Administration Office
CAP	Communications/Electronics Authorization Program
CBD	Commerce Business Daily
CCA	Component Cost Analysis
CCC	Cost Center Code
CDRL	Contract Data Requirements List
CE	Communications-Electronics; Civil Engineering; Critical Experiments
CEPS	Consolidated Electronics Parts Stock
CES	Civil Engineering Squadron
CFMB	Corporate Financial Management Board
CFSR	Contract Funds Status Report
CICA	Competition in Contracting Act of 1984
CLIN	Contract Line Item Number
COMSEC	Communications Security
CONUS	Continental United States
COR	Contracting Officer's Representative
COTR	Contracting Officer's Technical Representative
CPAF	Cost Plus Award Fee
CPFF	Cost Plus Fixed Fee
CPIF	Cost Plus Incentive Fee
CPR	Cost Performance Report
CPTS	Comptroller Squadron
CRC	Camera-ready Copy
CRDA	Cooperative Research & Development Agreement
CRS	Contract Repair Services
CSRB	Computer Systems Requirement Board
CSRD	Communications-Computer Systems Requirements Document
CSSM	Computer Systems Security Manager
CSSO	Computer Systems Staff Officer
CSU	Customer Support Unit
CTSS	Cray Time Sharing System
CWBS	Contract Work Breakdown Structure

D

D&F	Determination and Findings
DAA	Designated Approving Authority
DAC	Designated Acquisition Commander
DAO	Defense Accounting Office
DARPA	See ARPA
DCP	Decision Coordinating Paper
DFARS	Defense Federal Acquisition Regulation Supplement
DFAS	Defense Finance and Accounting Service
DID	Data Item Description
DMO	Data Management Officer
DNA	Defense Nuclear Agency
DOD	Department of Defense
DOE	Department of Energy
DRIS	Defense Retail Interservice Support
DRMO	Defense Reutilization and Marketing Office
DRR	Document Requirements Review
DSP	Defense Standardization Program
DSSO	Division System Safety Officer
DTC	Design To Cost
DTIC	Defense Technical Information Center

E

EAC	Estimate At Completion
ECO	Equipment Control Officer
ECU	Equipment Control Unit
EEIC	Element of Expense Investment Code
ERAA	Equipment Review Approval Authority
ESC	Electronics Systems Center
ETAC	Environmental Technical Application Center

F

FAC	Functional Area Chief
FAD	Force/Activity Designator
FAR	Federal Acquisition Regulations
FARM	Functional Area Records Manager
FCA	Fund Cite Authorization
FDO	Fee Determining Official
FDPO	Foreign Disclosure Policy Officer
FFP	Firm Fixed Price
FFRDC	Federally Funded Research and Development Center
FPI	Fixed Price Incentive
FPR	Funded Purchase Request
FPRA	Forward Pricing Rate Arrangement
FTA	Focused Technology Area
FW&A	Fraud, Waste and Abuse
FY	Fiscal Year
FYDP	Future Years Defense Program

G

G&A	General and Administrative
GAO	Government Accounting Office
GBL	Government Bill of Lading
GFE	Government Furnished Equipment
GFM	Government Furnished Materiel
GFP	Government Furnished Property
GOCESS	Government Operated Civil Engineering Service Store
GOGO	Government Owned and Government Operated
GSA	General Services Administration

H

HQ	Headquarters
HSC	Human Systems Center
HTSA	Host-Tenant Support Agreement

I

ICE	Independent Cost Estimate
ICO	Information for the Contracting Officer
ICR	Intelligence Collection Requirement
IG	Inspector General
IGCE	Independent Government Cost Estimate
IGE	Independent Government Estimate
ILIR	In-house Laboratory Independent Research
IPE	Industrial Plant Equipment
IPR	Intelligence Production Requirement
IR&D	Independent Research and Development
ISE	Industrial Shop Equipment

J

JOCAS	Job Order Cost Accounting System
JON	Job Order Number
JRC	JOCAS Reimbursement Code
JRD	Justification Review Document
JOR	Job Order Request

L

LAN	Local Area Network
LCC	Life Cycle Cost
LMCA	Logistics Materiel Control Activity
LOA	Letter of Authorization
LOE	Level of Effort
LOU	Letter of Urgency

M

M&S	Management and Support
MAJCOM	Major Command
MCP	Military Construction Program
MCTL	Militarily Critical Technologies List
MFP	Major Force Program
MHU	Material Handling Unit
MIPR	Military Interdepartmental Purchase Request
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MPC	Material Program Code
MPF	Military Personnel Flight

N

NASA	National Aeronautics and Space Administration
NDP	National Disclosure Policy
NEPA	National Environmental Protection Act
NLO	Non Linear Optics
NLT	Not Less Than; Not Later Than
NMGRT	New Mexico Gross Receipt Tax
NOCA	Notice of Contract Action
NOFORN	Not Releasable to Foreign Nationals (intelligence information only)
NTE	Not To Exceed

O

O&M	Operation and Maintenance
OA	Obligation Authority
OAC	Operating Agency Code
OCR	Office of Corollary Responsibility
ODC	Other Direct Costs
OPR	Office of Primary Responsibility
OPSEC	Operations Security
ORTA	Office of Research and Technology Applications
OSD	Office of the Secretary of Defense

P

PA	Procurement Authorization; Program Authorization; Public Affairs
PB	President's Budget
PC	Printed Circuit; Personal Computer
PCE	Program Cost Estimate
PCO	Procuring Contracting Officer
PD	Procurement Directive
PDM	Program Decision Memorandum
PE	Program Element
PEM	Program Element Monitor
PEP	Program Element Planner
PID	Program Introduction Document
PK	Directorate of Procurement
PM	Project Manager
PMA	Program Management Agreement
PMD	Program Management Directive
PMP	Program Management Plan
PNM	Price and Negotiation Memorandum
PO	Project Order; Project Officer; Purchase Order;
POM	Program Objective Memorandum
PPBS	Planning, Programming and Budgeting System
PPC	Pre-proposal Conference
PR	Purchase Request
PRD	Program Requirements Document
PRDA	Program Research and Development Announcement
PTU	Procedures and Training Unit
PWBS	Program Work Breakdown Structure

Q

QA	Quality Assurance

QAE	Quality Assurance Evaluator
QE	Quantitative Evaluation
QPM	Qualified Project Manager

R

R&D	Research and Development
R&M	Reliability and Maintainability
RC/CC	Responsibility Center/Cost Center Code
RDD	Required Delivery Date
RDT&E	Research, Development, Test and Evaluation
RFP	Request for Proposal
RFPSO	Request for Proposal Support Office
RFQ	Request for Quotation
ROC	Required Operational Capability
RON	Reimbursable Order Number

S

S&T	Science and Technology
SAR	Special Access Requirements
SADBUS	Small and Disadvantaged Business
SAF	Secretary of the Air Force
SAF/AQ	Assistant Secretary of the Air Force for Acquisition
SATO	Scheduled Airlines Traffic Office
SBA	Small Business Administration
SBIR	Small Business Innovative Research
SBSS	Standard Base Supply System
SCI	Sensitive Compartmented Information
SCTC	Small Computer Technology Center
SDI	Selective Dissemination of Information; Strategic Defense Initiative
SECDEF	Secretary of Defense
SERDP	Strategic Environmental Research and Development Program
SETA	Scientific and Engineering Technical Assistance
SIC	Standard Industrial Classification
SIO	Senior Intelligence Officer
SMA	Subject Matter Area
SMC	Space and Missiles Systems Center
SOC	Statement of Capability
SOW	Statement of Work
SPC	Supply Processing Code
SPO	Systems Program Office
SS	Subtask Statement
SSA	Source Selection Authority
SSAC	Source Selection Advisory Council
SSEB	Source Selection Evaluation Board
SSET	Source Selection Evaluation Team
SSI	Source Selection Information
SSP	Source Selection Plan
SSS	Staff Summary Sheet
STINFO	Scientific and Technical Information
STO	Subtask Officer

T

T&E	Test and Evaluation
TAP	Technology Area Plan
TCO	Telephone Control Officer Termination Contracting Officer;
TDY	Temporary Duty
TE	Technical Evaluation
TEMS	Technical Engineering Manpower Support
TEO	Technology Executive Officer
TET	Technical Evaluation Team
TIP	Technical Investment Plan
TIP	Technical Investment Plan
TM	Time and Materials
TN	Technical Note
TOA	Total Obligation Authority
TPIPT	Technical Planning Integrated Product Team
TPP	Technical Program Plan
TR	Technical Report
TRP	Technology Reinvestment Project
TTP	Technology Transition Plan

U

UDS	Universal Documentation System
ULO	Unliquidated Obligation
UMMIPS	Uniform Material Movement and Issue Priority System
UND	Urgency of Need Designator

UOO	Undelivered Orders Outstanding
UP	Unsolicited Proposal
UR	Unfunded Requirement
USAF	United States Air Force
USC	United States Code
V	
VAUB	Vehicle Authorization/ Utilization Board
VE	Value Engineering
W	
WATS	Wide Area Telephone Service
WBS	Work Breakdown Structure
WPAFB	Wright-Patterson Air Force Base
WUIS	Work-Unit Information Summary

Glossary

Accrual: Recognition before payment that delivery of the goods or services has occurred.

Acquisition Plan (AP): A document which addresses all technical, business, management and other significant considerations of the proposed acquisition. In R&D , an AP is required on all actions $5M or greater.

Acquisition Strategy Panel (ASP): At PL, an ad hoc panel of functional experts who serve in an advisory capacity and review and recommend strategies. It is co-chaired by the two letter technical director and the director of contracts or their designees. An ASP is required for those actions which require an acquisition plan, but is not required for basic (6.1) or applied research (6.2) or advanced development (6.3) less than $25M. AFR 70-14 covers ASP requirements.

Actuals: The labor hours, material, and other costs expended through a specific period of time.

Administrative Contracting Officer (ACO): The government contracting officer responsible for contract administration, the acquisition cycle following contract award. The PCO may delegate or retain administrative responsibilities defined in FAR Part 43.

Advanced Purchase Request: PR prepared for firm requirements for the next fiscal year before receiving procurement authorization and budget authorization or operating programs for that FY.

Advanced Technology Development: The term given to programs or projects involving development of hardware for experimental or operational test. These are identified in the planning, programming, budgeting of the program elements funded to budget program 62 0000. This is commonly referred to as 6.3A.

Advanced Technology Transition Demonstration (ATTD): A 6.3A-funded program with the specific objective of meeting a user's defined need through a risk reducing "proof of principle" demonstration at the subsystem, or higher level, generally in an operationally realistic environment.

Algorithm: A set of ordered procedures, steps, or rules of mathematical formula the leads to an answer or cost.

Allocation: A method for assigning costs or distributing funds.

Allowable: Recognizable for reimbursement on government contracts.

Analogy Estimating: An estimation method that uses actual costs of a similar existing or past program and adjusts for complexity, technical or physical differences to derive the new estimate. Also referred to as analog and analogous cost estimates.

Appropriation: An annual law that identifies funds for specified purposes.

Appropriation Accounting System: Accounts for all funds against the funding document that transmitted the funds. The agency responsible for issuing the funding document is advised of the status of funds.

Assistance Instrument: Assistance Instruments are used when the principal purpose is to transfer a thing of value to the recipient to carry out a public purpose of support or stimulation rather than use of a contract to acquire goods or services for the direct benefit or use of the government.

Audit: The systematic examination of records and documents to verify compliance.

Award Fee Plan: A document prepared as part of the purchase request package (for contracts with award fee clauses) which details evaluation criteria, weighting factors, responsibilities and procedures for

implementing the award fee clauses of the contract.

Award Fee Review Board (AFRB): Personnel identified in the award fee plan who evaluates input on contractor performance and develop an award fee recommendation.

Base Contracts: See Operational Contracting.

Base Support: Providing a contractor access to and use of government facilities or equipment on base.

Base Year Costs/Dollars: Dollars which are expressed in the economic condition of a specific year and do not include escalation or inflation for future years. A base dollar reflects the "purchasing power" of the dollar for the specified base year.

Bid and Proposal Cost: Costs incurred by a contractor in preparing, submitting and supporting bids and proposals (whether solicited or unsolicited) on potential contracts.

Bill of Material: A descriptive and quantitative list of all the materials and parts required to complete the work.

Brassboard Configuration: A preprototype working model which is used to demonstrate the operating functions of a design concept. Brassboard hardware refers to electronic components, and is not constrained to weight and volume parameters specified for the design of the final operational article.

Breadboard: A model constructed to demonstrate the workability or principle of design. A preliminary assembly used to prove the feasibility of a device, circuit, system, or principle with regard to the final configuration.

Budget Estimate: A forecast of funding requirements or finances of a particular program or operation.

Budget Estimate Agreement (BEA): AFMC Form 607; used for R&D support provided by PL to any organization.

Budget Estimate Submission: The formal submission of a program's financial requirements that updates the POM and becomes the basis for the President's Budget.

Burden: See Overhead.

Buyer: The person who is assistant to the PCO in award and administration of contracts. The buyer does not have authority to sign contracts.

Change Order: A unilateral contract modification directing inscope changes issued by the PCO pursuant to the Changes clause of the contract.

Classified Contract: A contract that contains a DD Form 254 (Contract Security Specification) requiring access to or generation of classified information by the contractor in contract performance.

Classified Intelligence: Includes classified information on foreign government military and non-military equipment, research and development, policies, and organizations.

Command Approval: Signature of the Commander or Vice Commander.

Commitment: The formal administrative reservation of funds.

Communications-Computer Systems Requirements Document (CSRD): A validation and approval to acquire computer hardware, software and/or services, which is obtained after description and justification of the Automated Data Processing (ADP) requirement. It is submitted on an AF Form 3215 to the SC office prior to initiating procurement.

Communications Security: The security of electronic communications.

Competitive Range: A term used to identify those proposals determined to have

a reasonable chance of being selected for award of a competitive contract. The competitive range is determined on the basis of technical, management, or price considerations and other salient factors. The contracting officer must conduct discussions with all responsible offerors who submit proposals determined to be within the competitive range.

Complete-Final Funds Commitment: No further funding is needed for the Form 36; the entire effort identified by the PR number has been funded.

Complete-Incremental Funds Commitment: No further commitment is anticipated against the funds initiated by the Form 36. Further initiation of funds is required to complete the funding provided by that PR number.

Conceptual Phase (Concept Exploration): Period of the acquisition life cycle during which alternative solutions that have the potential to satisfy the projected requirement are conceptualized and analyzed. These solutions consider available technologies and must be explored in enough detail to support alternative evaluation and selection.

Consideration: Something of value exchanged by the parties making the contract enforceable. The inducement to contract.

Consultants: Persons possessing special, current knowledge or skills that may be combined with extensive experience that enables them to provide information, opinions, advice or recommendations to enhance understanding of complex issues.

Contract: A mutually binding, legal relationship obligating the seller to furnish supplies or services and the buyer to pay for them. The elements of a contract are mutual assent, legality, consideration, certainty of terms and capacity.

Contract Administration Office (CAO): An office that performs (a) assigned postaward functions related to the administration of the contract and (b) assigned preaward functions.

Contract Award: Signature by the contracting officer on the document and mailing the signed document to the contractor. The mailing date stamped on the face of the document is generally considered the award date and the beginning of the contract.

Contract Closeout: The process of signing the final DD Form 250, Material Inspection and Receiving Report, which certifies that the contractor has delivered all deliverables under the terms of the contract. There are a number of actions by others after this time, including audits, final payments, record retirement.

Contract Closeout Procedures: Positive steps taken by the project manager and contracting personnel on all contracts completed or terminated to verify that the government receives the full value to which it is entitled.

Contract Data Requirements List (CDRL): DD Form 1423 which specifies the destination and method of transmittal of all deliverable data.

Contract Funds Status Report (CFSR): A contractor cost performance data report format for all contracts, except firm fixed price contracts, that exceed $500K, and is optional to $100K.

Contract Modification: A written alteration to an existing contract, whether issued by unilateral contracting officer action or mutual action of the parties.

Contract Price Estimate: An independent government estimate (IGE) by cost element of the cost of performing the required work.

Contract Pricing Proposal Coversheet (SF 1411): The instrument required for submitting cost proposals.

Contract Termination: See Termination.

Contract Type: A specific pricing arrangement employed for performing work under contract. Specific pricing (or compensation) arrangement, expressed as contract types, include: firm fixed price, fixed price incentive, cost plus fixed fee, cost plus incentive fee, and cost plus award fee.

Contract Work Breakdown Structure (CWBS): The work breakdown structure that addresses only those WBS elements applicable to a specific contract.

Contracting Officer (CO): Any person who, by virtue of appointment, has the authority to enter into, and administer and/or terminate contracts.

Contracting Officer's Representative (COR): Title designated in writing by the procuring contracting officer to the person outside the procurement office who is responsible for overseeing an entire subtask statement contract or delivery order contract. This person must be a qualified project manager and must have received specialized training in managing contracts with subtask statement or delivery order arrangements.

Contractor-Acquired Property: Property acquired or otherwise provided by the contractor for performing a contract and to which the government has title.

Contractor's Proposal: The written response by one or more contractors to the request for proposal, Broad Agency Announcement (BAA), Program Research and Development Announcement (PRDA) or other like instruments. Proposals are evaluated both technically and quantitatively by the technical evaluation team.

Controlled Information: Any information subject to official restrictions on its dissemination.

Cooperative Agreement: An assistance instrument used in lieu of a grant when substantial involvement is expected between the government and recipient. Cooperative agreements may require 50 percent cost sharing from the recipient.

Cooperative Research and Development Agreement (CRDA). The CRDA is an agreement between one or more federal laboratories and/or nonfederal organizations including private companies, universities, other state and local governments, other public and nonprofit organizations etc. The CRDA allows the nonfederal organizations to contribute resources including personnel, facilities, equipment, intellectual property, and funding while the federal organization can contribute all of the above except funding. The CRDA is not a procurement contract.

Corporate Financial Management Board (CFMB): This group makes final resource allocation recommendations to the PL Commander. The CFMB is comprised of the Laboratory Executive Director, the Chief Scientist, the Comptroller, and the Director of Plans and Programs.

Cost Contract: A cost reimbursement contract in which the contractor is reimbursed allowable costs, but receives no fee. It is appropriate for use in R&D efforts, particularly with educational institutions or other non-profit institutions.

Cost Data: Any information which contributes to the buildup or support of a cost proposal.

Cost Driver: An independent function that directly affects costs.

Cost Model: An estimating tool which uses the relationships between cost drivers and project characteristics to predict project costs.

Cost Overrun/Underrun: A net change in contractual amount over (under) that contemplated by a contract target price (FPI contract), estimated cost (any cost reimbursement contract), or redeterminable price (FPR contract), due to the contractor's actual costs being over (under) target or anticipated contract costs, but not attributable to other causes such as

increases in quantity or engineering changes.

Cost Performance Report (CPR): A contractor's cost performance data report.

Cost Plus Award Fee (CPAF) Contract: A cost reimbursement contract that provides for a fee consisting of a base amount (which may be zero) and an award amount that is unilaterally determined by the Fee Determining Official (FDO) through subjective evaluation. Award Fee determinations are not subject to disputes.

Cost Plus Fixed Fee (CPFF) Contract: A cost reimbursement contract that provides for payment to the contractor of a negotiated fee that is fixed at the inception of the contract. The fixed fee does not vary with actual cost, but may be adjusted as a result of changes in the work to be performed under the contract.

Cost Plus Incentive Fee (CPIF) Contract: A cost reimbursement contract that provides for an initially negotiated fee to be adjusted later by a formula based on the relationship of total allowable costs to target costs.

Cost Proposal: A submission by a potential contractor proposing a cost for a specified task. Cost proposals accompany technical proposals and are received pursuant to a request for proposal.

Cost Reimbursement: A contract that provides for payment allowable incurred costs to the extent prescribed in the contract. It establishes an estimate of the total cost for the purpose of obligating funds and establishing a ceiling that the contractor may not exceed (except at its own risk) without contracting officer approval.

Cost Reimbursement Contracts: Types of contracts which provide for payment of allowable costs incurred when performing the contract, to the extent prescribed in the contract.

Cost Risk: A subjective term equal to the potential for possible monetary loss in light of the complexity or unknown nature of the job or work to be done. It is one of the elements to be considered in the negotiation of a fair and reasonable price, as well as in determining the type of contract under which the performance will concur.

Cost/Schedule Control Systems Criteria (C/SCSC): A contractor cost performance measurement system, required in selected high dollar value PL contracts, to gauge the adequacy of a contractor's reporting systems to ensure that the government gets the program cost and schedule performance information it needs.

Cost/Schedule Status Report (C/SSR): A contractor cost and schedule performance data report.

Cost Sharing Contract: A cost reimbursable contract in which the contractor receives no fee and is reimbursed only for an agreed-upon portion of its allowable costs.

Cost Track (Tracking): (1) A "step by step" record of the revisions and updates of proposed costs from the original submittal of a baseline estimate to the final agreement on costs. (2) An historical record of selected cost information (estimated or actual) on a weapon system basis with written analysis which explains variance among cost entries. (3) The flow of cost data from the price summary and DD Form 633 to detail support data. (4) Establishing and maintaining permanent records of successive cost estimates made for major programs and systems together with the reasons for changes to those tracking cost estimates.

Critical Experiment (CE): A 6.3A-funded program demonstrating technical feasibility at the component or subsystem level, generally in a laboratory environment.

Customer Support Unit (CSU): A unit of LMCA which receives and processes all laboratory requests for supplies and non-accountable, non-ADPE (automated data

processing equipment) equipment. Direct procurement and imprest funds purchases of supplies and non-ADPE equipment are also under CSU.

Data: All graphic and written information, whether technical or nontechnical. Data may be in the form of drawings, documents, reports, letters, machine printouts, brochures, and other applicable forms not specifically mentioned. Deliverable date is identified by the contract data requirements list (CDRL) attached to a contract.

Data Item Description (DID): A form which defines the intended use, preparation instructions and content and format requirements for a specific data product. The DID is incorporated by reference in the CDRL.

Defense Technical Information Center (DTIC): Repository for reports on on-going and completed R&D. DTIC provides for acquisition, storage, announcement, retrieval, and secondary distribution of technical documents. Its three computerized data bases contain information on current research, development, test and evaluation program elements, projects, and tasks for ongoing as well as completed efforts. Production, engineering, and logistics information is also collected.

Definitization: Signature by both parties of a modification that reflects agreement resulting from change orders, letter contracts or other undefinitized contractual actions.

Delinquent Contract: Contract under which the contractor has failed to meet the required delivery schedule.

Demonstration and Validation Phase: The phase in which the alternatives selected under the conceptual exploration phase are further investigated and definitized. These investigations may involve paper studies or hardware prototypes or both. The objective of these efforts is an in-depth understanding of the technical and affordability aspects of competing alternatives which will assist in selecting the most viable system for further development.

Design to Cost: A management concept in which cost goals are established during the development phase to guide hardware design and control program cost. Cost, as a key design parameter, is addressed on a continuing basis, and is an inherent part of the development and production process.

Determination and Findings (D&F): A special form of written approval by an authorized official that is required by statute or regulation as a prerequisite to taking certain contracting actions. The "determination" is a conclusion or decision supported by the "findings."

Direct Cite: A funding document that charges a customer organization directly by citing its program element and other financial identification (in contrast with cost reimbursement).

Direct Estimating: The process of generating element by element estimates based upon judgment as opposed to parametric estimates.

Direct Labor: That labor which can be identified to a final cost objective (e.g. a project or a contract).

Direct Material: Raw materials and vendor supplied parts and subassemblies that are purchased for and incorporated as a final product or consumed in the making of a final product.

Dispute: Disagreement arising pursuant to the "Disputes" clause between a contractor and the government regarding a question of fact under a given contract. If the disagreement cannot be resolved between the parties, the contracting officer issues a final written decision. If the contractor challenges that final decision, the matter will be settled via available administrative or legal processes.

Disputes Clause: A contract clause that establishes procedures for contractor

submission of claims and contracting officer disposition of them.

Distribution Statement: A statement used on a technical document that denotes conditions of availability for distribution, release, or disclosure.

Engineering Development: The term given to efforts designed to prove hardware before full-scale production. These are identified in Program Element 64XXXF, commonly called 6.4.

Environmental Assessment (EA): All actions to the work-unit level will be environmentally assessed, and documented for the project file.

Environmental Review: Each laboratory acquisition must comply with the National Environmental Protection Act (NEPA) and other environmental Executive Orders and statutes. This review is documented on an AF Form 813.

Environmental Technical Applications Center: See USAF Environmental Technical Applications Center.

Equipment Control Unit: A unit of LMCA which processes all requests for issues, turn-in, shipment, contract maintenance, rental contracts and inter-organizational transfer of accountable equipment.

Estimate: An approximation of the type, quantity, quality and cost of labor hours, materials, subcontracts and other components of the work to be performed.

Estimate at Completion (EAC): The estimate of what the program will actually cost when it is finished. It consists of actual costs to date plus the estimate of the balance to complete through contract completion.

Estimator: A person who performs the estimating function.

Evaluation Criteria: The technical and cost factors used to assess the contractor's proposal.

Expenditure: Disbursement of funds. On many comptroller reports expenditures will be titled accrued expenditures paid.

Expert Opinion: An estimating method of using experts in engineering, manufacturing, procurement, testing, to "brainstorm" estimates. Usually conducted on a new concept with little or no definition based solely on expert judgment and similar experiences. This term is also referred to as the Delphi approach.

Export Control: The Export Administration Act (EAA) of 1979, as amended in 1985 and 1988, addresses the threat of acquisition of national security sensitive goods and technology by the Coordinating Committee for Multilateral Export Control prescribed countries , and other potential adversary countries that could enhance their military-industrial capabilities to the detriment of US security interests, and emphasizes the control of technology. Executive Order 12730 directed the continuation of export controls in accordance with the Act.

Exploratory Development: The term given to projects designed to resolve specific military problems short of major development projects. These are identified in program elements 62XXXF, commonly called 6.2 money. Efforts in this category are in an intermediary stage between basic research and advanced development.

Facilities: Industrial property (other than material, special tooling, military property, and special test equipment) for production, maintenance, research, development, or test, including real property and rights, buildings, structures, improvements, and plant equipment.

Factfinding: An examination of facts conducted after receipt of proposals but before negotiations begin, to establish common understanding or agreement on cost and technical issues.

Fast Track: The name given to a program to expedite certain contracting actions. Designation of a PR for fast track is a

unilateral determination by the contracting officer or higher authority within PK and generally applies to labor-intensive efforts where there is little or no hardware development or subcontracting.

Federally Funded Research and Development Centers (FFRDCs): A contractor who operates under a long term, broad government agency charter to support basic or applied research and development. FFRDCs receive 70 percent or more of their financial support from the government.

Fee: The term used for profit on cost-reimbursement contracts.

Fee Determining Official (FDO): Person identified in the award fee plan who has been delegated authority to determine earned award fee based on input from the award fee review board. FDO must have sufficient stature to assure objectivity in fee determination and communication with corresponding level of company management.

Firm Fixed Price (FFP) Contract: An agreement to pay a fixed dollar amount on delivery and acceptance of items or services required by the SOW.

Firm Fixed Price Level-of-Effort Term Contract: A contract that requires the contractor to provide a specified level of effort over a stated period of time on work that can only be defined in general terms for a fixed dollar amount.

Fiscal Year: Twelve-month period selected for accounting purposes. (1) Government - The fiscal year for most agencies of the United States Government begins on the first day of October and ends on the 30th day of September of the following calendar year. (2) Contractors - The fiscal year of a company can be any time period encompassing a period of one year.

Fixed Price Incentive (FPI) Contract: A fixed price contract that provides for adjusted profit and establishing the final contract price by a formula based on the relationship of final negotiated total cost to total target cost.

Focused Technology Area (FTA): FTA is a subdivision within the technical area structure and represents a collection of related work-units or JONs. FTAs equate to the sub-subthrust level.

Foreign Disclosure Policy Officer (FDPO): A government employee who has the authority to disclose or deny the release of USAF information to foreign nationals in accordance with current National Disclosure Policy. The FDPO has some local authority, but must coordinate many actions with higher headquarters.

Foreign National: Any individual who is not a citizen or a immigrant alien to the United States.

Forward Pricing Rate: A written understanding negotiated between a contractor and the government to make certain rates (e.g. labor, indirect, material usage) available for use during a specified period of time.

Free Market Model: A new concept to be implemented in FY95 by PL. Basically it requires all projects to pay their fair share of the indirect and overhead costs required to operate the Laboratory.

Fund Cite Authorization: Used when PL requires support from an Air Force agency for travel or contractual work.

Funded Purchase Request: A Form 36 certified by the local accounting and finance office and sent to another government contracting office for purchase of items on their existing contract.

Future Years Defense Program (FYDP): The official document and database which summarizes SECDEF approved plans and programs for the DOD. It is updated five times every two year PPBS cycle.

General Accounting Office (GAO): Created by the Budget and Accounting Act of 1921 and under the control of the Comptroller General who reports directly to

Congress. The GAO has statutory authority to settle and adjust all claims and demands by or against the government, including protests or acquisition actions.

General and Administrative (G&A) Expenses: Indirect expenses, including a company's general and executive offices, executive compensation, the cost of staff services such as legal, accounting, public relations, financial and similar expenses and other general expenses related to the overall business.

Government-Furnished Material or Equipment: Material or equipment provided by the government to a contractor. GFE can range from in-factory test equipment to base ground equipment to hardware within the flyaway cost of the weapon system.

Government-Furnished Property (GFP): Property in the possession of or directly acquired by the government and subsequently made available to the contractor.

Government Property: All property owned by or leased to the government or acquired by the government under the terms of a contract. It includes both contractor acquired property (CAP) and government-furnished property (GFP)

Grants: An assistance instrument that is awarded to an educational institution or nonprofit entity.

Host-Tenant Support Agreement (HTSA): A base support type service agreement between governmental organizations.

Immigrant Alien: See Resident Alien.

Incremental Funding Process: Generally applicable to RDT&E 3600 appropriations, a funding policy that dictates that only funds required to accomplish work and provide for related costs in a given fiscal year are included in the budget request for that fiscal year.

Independent Research and Development (IR&D): Basic or applied research and development on systems and other concept formulation studies that is not sponsored by or required in performance of a contract or grant.

Industrial Plant Equipment (IPE): That part of plant equipment with acquisition cost of $15K or more, used for altering the physical, electrical, or chemical properties of materials, components, or end-items entailed in manufacturing, maintenance, supply, assembly, or R&D operations. Commonly called industrial shop equipment.

Inflation: A rise in the general level of prices. Pure inflation is defined as a rise in the general level of prices unaccompanied by a rise in output (productivity).

Interdivisional Transfers: Labor and material sold or transferred between prime contractor's divisions, subsidiaries or affiliates that are under a common control.

Internal Technical Reports: Informal technical report which stays within PL.

Job Order Cost Accounting System (JOCAS): A cost accounting system prescribed by HQ AFMC and designed to determine total costs of accomplishing an R&D job.

Job Order Cost Estimates (Work-unit Estimates): Estimates of job costs by element of expense on a fiscal year basis. These estimated costs can be compared to actual costs using JOCAS for management control.

Job Order Number (JON): An eight-character alphanumeric code used in JOCAS. The first four characters reflect the primary project, program, or system number sponsoring the R&D job. The next two characters reflect the task, and the last two characters reflect the work-unit. See Work-Unit.

Job Order Register (JOR): The set of at least 20 data descriptions entered in the computer for each JON in the JOCAS.

Laboratory Corporate Board: A PL governing body comprised of the Commander, Executive Director, Chief Scientist and all Technical and Support Directors.

Labor Hour Contract: An agreement providing for payment for services on the basis of the number of direct labor hours used at a fixed rate specified in the contract.

Letter Contract: A written, preliminary contractual instrument that authorizes the immediate commencement of activity under its terms and conditions, pending definitization of the pricing arrangement for the work to be done.

Letter of Authorization (LOA): Letter format or message, good for the FY of funds cited, used when PL requires the support of another government agency and that agency requires funds to provide the support.

Letter of Urgency: A letter used when contract performance needs to start in less than the normal acquisition cycle time. It is sent by staff summary sheet which explains to CC why the PR was not processed earlier.

Level of Effort (LOE): An approach which requires the contractor to furnish technical effort and report on the results. It may be used in either fixed price or cost reimbursement contracts and is also known as the "Term" form of contract.

Life Cycle Cost (LCC): The total cost to the government of acquisition and ownership of a system over its full life, including development, acquisition. operation, support, and disposal.

Literature Search: A comprehensive search of available literature to make sure that a proposed R&D effort has not been or is not currently being done by another agency. DTIC and other sources are used to accomplish the search. Classified and unclassified access to the DTIC database is available through the PL libraries.

Logistics Material Control Activity (LMCA): The PL organization which is the focal point for ordering supplies and equipment. LMCA also acts as the focal point between laboratory personnel, base supply, base finance, base contracting and all other areas for acquisition of supplies and equipment.

Maintainability: See Reliability and Maintainability.

Material Handling Unit (MHU): The unit in which LMCA establishes, inventories and replenishes the central bench stock. MHU is the central receiving point for items from vendors, base supply and turn-ins from the laboratory. MHU delivers and picks up supplies and equipment. MHU provides temporary storage on a limited basis.

Milestone: A date or event which signifies either the start or completion of a task, work item, or activity.

Militarily Critical Technologies List (MCTL): Provide descriptions of technologies which DOD assesses to be critical to the development, production, and use of military capabilities of significant value to potential adversaries. It also include technologies significant to the proliferation of nuclear, chemical, biological weapons and missile delivery systems.

Military Interdepartmental Purchase Request (MIPR): DD Form 448; an order sent to another government agency requiring work be performed by the agency or the agency's contractors. MIPRs sent to agencies outside the DOD require preparation of a D&F signed by a Contracting Officer.

Model Contract: Terms and conditions proposed to be included in resulting contract that form the basis for negotiations.

Murder Board: See Solicitation Review Board.

Negotiation: A bargaining process between to or more parties, each with its own viewpoints and objectives, seeking to reach a mutually satisfactory agreement on, or settlement of, a matter of common concern.

New Start: There are two kinds of new start programs; a major system new start and a Congressionally-recognized new start. A major system new start is a program in which R&D funds exceed $200M (in FY80 $), or procurement exceeds $1.0B, or one which the SECDEF so designates. Congress defines a new start as any R&D or procurement budget line item in the first year of the President's Budget (PB) that had no funding in the prior year (even if there had been funding in an earlier year).

Normalized: (1) Data Base - To render constant or to adjust for known differences. (2) Dollars - Various fiscal year costs are inflated or deflated to a common year basis for comparison.

Not-To-Exceed (NTE)/Not-Less-Than (NLT): A corporate commitment to a customer that the value of an estimate plus appropriate contingency allowances will not be exceeded or be less than the firm proposal and estimates which will be submitted at a later date. The NTE or NLT values can be adjusted by changes in the statement of work, requirements, and specifications.

Obligation: The legally binding funding requirement incurred by the government.

Obligation Restrictions: The Congressional requirement that RDT&E (3600) funds be obligated within two years of appropriation.

Office of Research and Technology Applications (ORTA): Established in 1980 within each federal laboratory to transfer federally owned or originated technology to state and local governments and to the private sector.

Operational Contracting: Purchase of relatively standard off-the-shelf supplies and services. At PL the term is used to refer to purchases made through the Operational Contracting Division as opposed to the Research and Development Contracting Divisions.

Operations Security (OPSEC): Principles, policies, and techniques for protecting unclassified information and detectable activities which would allow an adversary to more effectively prepare for war, to plan and conduct operations, and to react to friendly operations.

Option: A unilateral contractual right by which, for a specified time, the government may elect to purchase additional supplies or services called for by the contract, or may elect to extend the term of the contract.

Organization Code: See Supply Processing Code.

Other Transaction: An assistance instrument that can be awarded to any entity or combination of entities which requires at least 50 percent cost sharing from the recipient.

Outgoing Funding Documents: Any document that transfers funds outside of PL.

Overhead (Indirect Costs): Any cost not directly identified with a single final cost (i.e. contract) objective. Indirect costs are accumulated in logical cost groupings and allocated to final cost objectives on a cost/benefit relationship.

Overrun: See Cost Overrun/Underrun.

Overtime: Work in excess of standard or straight time as defined in applicable policies, regulations and statute.

Per Diem: A daily or monthly allowance to cover subsistence, lodging and local transportation costs while in travel status or temporary additional duty away from one's home location.

Performance and Cost Report: Cost and performance report format for contracts which do not meet C/SCSC requirements, are under $500K and more than six month's duration. Not used for less than $100K. Data Item DI-F-1208A.

Period of Performance: The time during which the overall contracted effort will be accomplished.

Personal Services Contract: A contract characterized by the employer-employee relationship it creates between the government and the contractor's personnel. The government is normally required to obtain employees by direct hire under competitive appointment or other procedures required by civil service laws. Obtaining personal services by other means circumvents those laws. Award of a personal services contract is prohibited, unless Congress specifically authorizes.

Preaward Survey: On-site survey at a potential contractor's plant to determine if the contractor has adequate facilities and resources to do the work required by the contract. The survey is requested by the purchasing office (Procuring Contracting Officer) and performed by the administering office (Administrative Contracting Officer).

Precontract Cost Agreement: An advance agreement stating that the government intends to recognize certain incurred costs before the effective date of the resulting contract document. The government may not direct work or receive benefit from the contractor until a contract is awarded. Costs are incurred at the contractor's risk until the contract is awarded.

Precommit: A procedure for processing a known contract requirement before the authority to cite the funds.

Precontract Cost Letter: A letter of intent to issue a contract which allows contractors to start work at their own risk in anticipation of that contract; it is not a contractual document.

Preproposal Conference: A meeting held with all prospective offerors after RFP release and before proposal submittal. The purpose of the meeting is to allow the government to explain or clarify any complicated contract requirements and entertain offerors' questions. Site visits to examine work site, test facilities, research apparatus or government-furnished property may be arranged, if applicable. The conference is generally chaired by PK and conducted jointly by PK and the technical office. Care must be taken to ensure that all prospective offerors receive the same information to avoid any appearance of unfair treatment and possible protest.

Price: Refers to the dollar value a company will sell its product for or commit to a contract. Includes profit or fee added to cost.

Price Negotiation Memorandum (PNM): The document that tells the story of the negotiation. It establishes the reasonableness of the agreement reached with the successful offeror and is the permanent record of the decisions the negotiator made in establishing that the price was fair and reasonable.

Pricing: The process of establishing the amount or amounts to be received or paid in turn for providing goods and services.

Procurement: The act of obtaining raw material, purchased parts and other production items. The obtaining of resources or services by purchasing, renting, or leasing.

Procurement Directive (PD): AF Form 830; used to transfer funds to another AF agency for contractual support.

Procuring Contracting Officer (PCO): The person in PK responsible for all acquisition actions from receipt of a PR through the award of the contract. The PCO has the authority to sign the contract on behalf of the government. After award of the contract, the PCO is responsible for executing changes in contract provisions

(for example delivery extensions, changes in scope of work). See Contracting Officer.

Product: The service, software, or hardware listed as a deliverable in a contract or purchase order.

Profit: The remuneration that contractors receive for contract performance over and above allowable costs. On cost-reimbursable contracts, it is referred to as fee.

Program: (1) One of ten DOD categories of activity. (2) The top work level within a program element, also called a project or system.

Programming: (1) Matching planned mission needs to resources. (2) Planning the use and functional division of funds on receipt for control and accountability; can be managerial function as in incremental programming or technical functions as in reprogramming.

Program Element (PE): A combination of manpower, equipment, and facilities related to a mission capability or activity. The PE is the basic building block of the DOD's Future Year Defense Program. A program element is identified by a specific six-digit alphanumeric code which indicates the mission or activity. Programs retain the same PE code or series of codes (different ones at various phases) throughout the program life cycle and is the program identifier in all program financial submittals (such as POMs, and BESs).

Program Introduction Document (PID): Typically in letter format; a statement of PL support requested of other government agencies, to include time constraints and any PL inputs.

Program Objective Memorandum (POM): A memorandum submitted to the Secretary of Defense which recommends the total resource requirements for a program within the parameters of the published Secretary of Defense fiscal guidance. It is the formal vehicle for initially expressing a program's funding requirements. The memorandum is submitted by the secretary of a military department, or the director of a defense agency.

Program Work Breakdown Structure (PWBS): The total work breakdown structure for a program containing all the effort needed for a total weapon system. The contract work breakdown structure is a subset of the PWBS. See Contract Work Breakdown Structure.

Project: Projects are assigned at the Air Staff (SAF/AQ) and are also referred to by their Budget Program Activity Code (BPAC). There is at least one project within each program element. This level is also called a Program Management Agreement (PMA) in BMDO terminology.

Project 06XX: Management & Support funds used for general PL support including regular civilian salaries and overhead which cannot be identified to a specific project, program or system.

Note: In FY95, when the Free Market model is implemented the 06XX funds will be replaced with an "06 type" carrier account.

Project Manager: This the individual assigned to manage one or more R&D technical efforts usually referred to as work-units or JONs. The term "project manager" is used for "project officer," "work-unit manager," "JON manager," as well as for other variants.

Project Order (PO): An AF Form 185; used to transfer funds to another government agency where the goods or services will be provided by that agency or a government owned, government operated (GOGO) entity.

Proposal: Solicited or unsolicited offers to provide goods or services.

Protest: Written objections by an actual or prospective offeror whose direct economic interests would be affected by award of a contract or failure to award a contract. Protests can be lodged after award and must be addressed within the prescribed number of days following award.

Prototype: A largely hand-built original or model of a final product that is subject to full service test.

Purchase Request (PR): The document that identifies or commits funds for an acquisition. PL uses two types of PRs. An Air Force Form 9 is generally used for purchase of supplies and services by Operational Contracting personnel. An AFMC Form 36 is generally used for R&D requirements.

Purchase Request Package: All applicable documents which are required for PK to base a new contract award or contract modification. It may include such documents as a purchase request, cover letter, statement of work, evaluation criteria, government estimate and other applicable attachments.

Qualified Project Manager (QPM): PL personnel who have obtained specialized experience for managing services performed by agencies outside the laboratory, and designated by the division chief.

Quality Assurance Program: AFR 74-1 and AFMCR 74-1 outline requirements for making sure the most benefit is received for the funds spent.

Quantitative Evaluation (QE): This is an evaluation of the contractor's cost proposal performed separately from and after the technical evaluation.

R&D Acquisition: Purchase of nonstandard supplies or services which are in the research, developmental, experimental or prototype stage.

R&D Contract Life Cycle: The time and events starting with identifying a requirement through successful delivery and acceptance of the goods or services and ending with the closeout of the JON and retiring the case file.

Ratification: The act of approving an unauthorized commitment by an official who has the authority to do so. Personnel authorized to ratify actions are generally high ranking members of the organization, due to the seriousness of the matter.

Reimbursement: A funding document which applies Phillips Laboratory funds to cover costs for a project, under the condition that a customer organization later reimburses the PL for these costs.

Reimbursable Order Number (RON): A code assigned to a reimbursable funding document.

Release of Classified Intelligence: Release is defined as the visual, oral or physical disclosure of classified intelligence information.

Reliability and Maintainability: The program established to reduce life cycle costs by designing to reduce equipment breakdowns, and the cost to avoid and make repairs.

Request for Proposal (RFP): A solicitation document used in other than sealed bidding procurements. It contains a description of the items or services to be procured, the proposed terms and conditions, type of contract contemplated, schedules, work statement, specifications list of items to be delivered, funding availability, data requirements and instructions for the preparation of technical, management and cost proposals.

Research: All effort directed toward increased knowledge of natural phenomena and environment and toward the solution of problems on all fields of science. This includes basic and applied research. (1) Basic Research - That research activity which has as its goal to increase scientific knowledge rather than its practical application. (2) Applied Research - The research activity which follows basic research and attempts to determine or expand the potentialities of new scientific discoveries or improvements in technology, materials, processes, methods, devices and techniques, and advances "the state of the art."

Resident Alien: Any individual who has applied for U.S. citizenship and has an Alien Registration card (commonly known as a "green" card). Resident Aliens are NOT considered to be foreign nationals, but it is important to realize they have no security clearance.

Resources: Consists of facilities, equipment, management, personnel, laboratories, and scientific, technical, and manufacturing capability.

Responsibility Center/Cost Center Code (RC/CC): A six-digit code assigned within PL for tracking funds down to the branch level, if required.

Scientific and Technical Information (STINFO): Information relating to research, development, engineering, testing, evaluation, production, operation, use, and maintenance for military products, services, and equipment for military systems.

Scientific and Technical Information (STINFO) Program: A program to make sure that the results of all DOD-sponsored RDT&E efforts are documented and made available to qualified organizations and individuals, through DTIC. One of the top priorities of the program is to ensure that all scientific and technical data concerning Air Force RDT&E efforts are reviewed for controlled dissemination.

Security Markings: Markings required on classified materials to identify them as requiring special handling.

Security Policy Review: The process by which materials proposed for public dissemination are reviewed and approved.

Senior Intelligence Officer: The Phillips Lab Director of Intelligence (PL/IN).

Service Contract: A contract that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply.

Small Business Concern: A business that is independently owned and operated, is not dominant in the field of operation in which it is bidding on government contracts, and meets the industry small business size standards. Size standards vary based on Standard Industrial Classification (SIC)

Sole Source Contract: A contract for the purchase of supplies or services that is entered into or proposed to be entered into after soliciting and negotiating with only one source.

Solicitation Review Board: A coordinating and review board, convened under AFMCR 70-7, to ensure full coordination and review of certain acquisitions. The board is normally convened when the acquisition will involve one or more outside agencies (base support major command) and is convened after the PR package is in final form but before issuing as an RFP.

Source Selection: A process used to maximize competition, ensure impartial and comprehensive evaluation of offerors' proposals and ensure selection of the source whose proposal has the highest degree of realism and whose performance is expected to best meet the government's requirement.

Special Tooling: All jigs, dies, fixtures, molds, pattern taps, gauges, other equipment and manufacturing aids, and replacements, which are of such a specialized nature that, without substantial modification or alteration, their use is limited to the development or production of particular supplies or parts, or the performance of particular services. The term includes all components of such items, but does not include the following:

-- Materials.

-- Special Test Equipment.

-- Buildings, and nonseverable structures (except foundations and similar improvements necessary for the installation

of special tooling), general or special machine tools, or similar capital items.

Standard Industrial Classification (SIC): The statistical classification standard underlying all establishment-based Federal economic statistics classified by industry.

State of the Art: The total scientific or technical knowledge available at a point in time when applied to a specific situation or design. It is used as a standard of comparison whereby a design is evaluated in the light of the existing scientific or technical knowledge available at the time.

Statement of Capability (SOC): A submittal in response to a sources sought synopsis, required from contractors other than large business, which identifies their areas of expertise. It is from these submittals that the PCO determines whether to set an action aside for sources other than large business.

Statement of Work (SOW): The portion of the solicitation or contract which defines the work to be performed by the contractor.

Subcontract: Any instrument, other than a prime contract, calling for the performance of work or for making or furnishing material required to perform prime contracts. The government has no privity of contract with subcontractors.

Subtask Officer (STO): The individual within the technical office who prepares subtask statements (SS) and is responsible for monitoring contractor performance on the SS. The STO must take care to communicate with the contractor only on matters relating to and within the scope of the particular subtask and with COR approval.

Subtask Statement (SS): Unilateral modification issued under subtask contracts which further defines the work to be performed within the SOW task area.

Subthrust: Each thrust is subdivided into one or more subthrusts.

Supplemental Agreement (SA): A contract modification which is accomplished by bilateral agreement.

Supply Processing Code (SPC): A three-digit (numeric) code assigned to all JONs where supplies or equipment are to be ordered through Base Supply. Also known as unit account number or organization code.

Support Agreement: DD Form 1144, used for base support type service agreements between DOD or other federal agencies.

Synopsis: A notice required by the FAR and published in the Commerce Business Daily (CBD), briefly summarizing planned contract opportunities and award information.

Target Cost: An element negotiated in both fixed price incentive (FPI) and cost plus incentive fee (CPIF) contracts which represents the most probable cost of contract performance.

Task: This is a subdivision of a project. There is normally one or more tasks in a project. Tasks are locally assigned in the AF S&T funding hierarchy. In the BMDO funding hierarchy, tasks are assigned by BMDO.

Task Area: A category of technical or management activity described in the SOW under which one or more subtask statements are expected to be issued to further define contractor performance under the contract.

Technical Area: Within AFMC, laboratory activities are documented by technical area for internal Air Force program approval purposes. Phillips Laboratory has three technical areas: Space and Missiles, Advanced Weapons, and Geophysics. The technical area breakdown structure is Technical Area, Thrust, Subthrust, Sub-subthrust (also referred to as a Focused Technology Area (FTA)), and Work-unit (or JON).

Technical Data: Technical writing, reproductions, drawings or other graphic representations and works of a technical nature which are specified to be delivered pursuant to a contract. Excludes financial reports, cost analyses, management, and other information incidental to contract administration.

Technical Debriefing: A meeting, requested in writing by an unsuccessful offeror, where the deficiencies in the proposal are explained. The purpose of the technical debriefing is to help the contractor avoid similar deficiencies in future proposals.

Technical Document: Any recorded information or data, regardless of its physical form or characteristics, which contain scientific and technical information or technical data including production, engineering, and logistics information.

Technical Evaluation (TE): Evaluation of contractor technical proposals by the technical evaluation team. In competitive source selections, TEs are performed before and separate from the quantitative evaluation of contractor cost proposals. The technical evaluation compares the contractor proposal with the SOW using the evaluation criteria and results in a determination that the proposal is technically acceptable or unacceptable.

Technical Management Review (TMR): A recurrent review of Laboratory work-units or aggregations of work-units. There are three basic types of TMRs: Initial, Periodic and Completion.

Technical Program Plan (TPP): A stand-alone, one-page summary procurement approval document. The TPP is required for only 6.4 program element funded procurement.

Technical Report (TR): The formally documented results of DOD-sponsored RDT&E including all work done in-house or completed by contractor or grantee.

Technology Investment Plan (TIP): A one-page summary procurement approval document submitted with the annual Technology Area Plan (TAP) for all S&T funded procurements.

Technology Transition Plan (TTP): The TTP is an agreement between the Laboratory, the appropriate product center technology transition planning OPR, and the recipient of the technology. The TTP documents the specific tasks that must be successfully completed prior to technology acceptance. A TTP is required for each ATTD, and for CEs at the discretion of the Laboratory Commander.

TEMPEST: DOD program to control classified electronic emissions.

Termination: Closeout of all or part of the work required by a contract either at the convenience of the government (the requirement no longer exists) or due to default by the contractor. A termination authority starts the process.

Termination Contracting Officer (TCO): A contracting officer who issues terminations for convenience or for default and who is responsible for setting terminated contracts.

Thrust: Each technical area is subdivided into one or more thrusts.

Time and Materials (TM) Contract: A contract for acquiring supplies or services on the basis of the number of direct labor hours, at specified hourly rates, and material at cost. It may be used only after the contracting officer executes a determination and findings that no other type of contract is suitable.

USAF Environmental Technical Applications Center: The central repository for collecting, storing, retrieving, and processing world-wide meteorological and climatological data.

Unit Account Number: See Supply Processing Code.

Unliquidated Obligations (ULO): Funds obligated on a contract or funding document, but not billed (expended) by the contractor or agency.

Unsolicited Proposal (UP): A written proposal that is submitted to the government on the initiative of the submittor or the purpose of obtaining a contract with the government and which is not in response to a formal or informal request. In order to award on a sole source basis, an UP must demonstrate a unique or innovative concept or unique capability that is not otherwise available to the government and does not resemble a pending competitive acquisition.

Value Engineering (VE): The program directed at analyzing a design for achieving the required function at the lowest overall cost consistent with good design and ease of manufacturing.

Work Breakdown Structure (WBS): A method of diagramming the way that work is to be accomplished by separating the work content into individual elements.

Work Package: A contracted segment of effort which is characterized by beginning and ending points clearly defined in terms of accomplishment and can be assigned a value of the hours and dollars required to complete. Work packages are lower levels of the contractors extended work breakdown structure divided into functional packages of effort.

Work-Unit: The work-unit is defined as "the smallest segment into which research and development efforts are divided for local administration." A work-unit should have a definite beginning, a definite end, and a tangible/reportable end product (a technical report, a piece of hardware, etc.). The term work-unit, JON and effort are synonymous.

Work-Unit Estimates: See Job Order Cost Estimates.

Work-Unit Information System: A reporting system established by the Office of the Under-Secretary of Defense for Research & Engineering to provide rapid exchange of technical and management data describing on-going DOD R&D efforts at the work-unit level.

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